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**How can the link between corporate entrepreneurship  
and Organisational Receptivity for Change (ORC) affect  
departmental performance? - Evidence from a Chinese  
State-owned Enterprise.**

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**Doctor of Philosophy**

**ASTON UNIVERSITY**

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Xueer Ma 2020

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**Aston University**

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**ABSTRACT**

This thesis used PetroChina as a research context, applied Organisational Receptivity for Change (ORC) to investigate changes in Chinese state-owned enterprises (SOEs). Chinese SOEs were usually seen as rigid and bureaucratic, and so up to now few studies have been done into investigating corporate entrepreneurship (CE) of Chinese SOEs. However, the role of CE has become critical with the reform of Chinese SOEs. With the progress of ORC, researchers realised the role of creativity during the change process, which laid the foundation for exploring the relationship between ORC and CE. This study proposes linking the ORC theory and CE to investigate how they impact performance in Chinese SOEs.

This study applies integrated institutional theory and a resource-based view (RBV), which effectively explains how ORC and corporate entrepreneurship impact organisational change through adapting the external environment and using internal unique resources to enhance competitive advantage. A quantitative method was applied in this research with the collection of multi-sourced primary data. The survey

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completed by individuals and aggregated to the departments. Data were collected from 109 departments from the six PetroChina Xinjiang Companies.

This study examined the ORC factor's influence on three dimensions of CE (innovation, venturing activities, and strategic renewal). Finally, the mediation effects of CE dimensions were tested on the link between ORC and performance. The research outcomes confirmed significant relationships between ORC and the three dimensions of CE. Moreover, innovation as a mediator affects the relationship between ORC and departmental performance.

This study demonstrated the perspective that the future development of the ORC would focus on creativity in the change process. Moreover, this study is a successful attempt at using and developing the ORC theory in a new context, as well as providing a new perspective to research on Chinese SOEs.

**Keywords:** Organisational Receptivity for Change (ORC); corporate entrepreneurship; innovation; performance; Chinese State-owned Enterprises (SOEs); PetroChina Xinjiang.

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# CHAPTER 1: INTRODUCTION

## 1. Introduction

This chapter first presents a brief outline of the whole thesis and introduces the background of the study before listing research questions and objectives. The proposed research contributions will also be presented in this chapter as well as giving an outline of subsequent chapters.

Nowadays, the global business environment is considered to be turbulent and continually changing, which constantly brings threats and challenges, but also opportunities, to organisations (Chebbi et al., 2020; Van de Ven & Poole, 2005; Bertoncel et al., 2018; Zorn et al., 2017). In this situation, businesses face challenges to adapt to the external changing environment (Hlousek, 2017; Poole & Van de Ven, 2004) and to enhance their internal capabilities in order to achieve competitive advantages over their rivals (Liu et al., 2009; Teece et al., 1997).

Previous empirical studies on organisational change mainly focused on the change process (e.g., Georgalis et al., 2015; Khurram & Petit, 2017); alternatively, some scholars paid attention to the importance of competitive advantages during times of change (e.g., Newbert, 2008; May & Stahl, 2017). In recent studies, researchers

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started to emphasise how change recipients play a role in change management (Chebbi et al., 2020; Oreg et al., 2018). They state that change recipients can make contributions to the change process (Oreg et al., 2018), while the high quality of change receptivity can nourish the employees' capabilities in innovation and entrepreneurship (Chebbi et al., 2020).

This research is consistent with the recent research trend in using the Organisational Receptivity for Change (ORC) theory to study how change receptivity motivates corporate entrepreneurship and to investigate the effects of corporate entrepreneurship on change performance.

Chinese SOEs provided an appreciable background for the research. Chinese SOEs as the backbone of China's economy, which always play a significant role during China's economic reform. However, this type of ownership was usually seen as rigid and bureaucratic (Song, 2018). During the process of China's economic reform, the transform of Chinese SOEs was once regarded as the failure cases historically (Lin, 2008). However, with the rise of other ownership enterprises and the increasing market competition, managers realised that Chinese SOEs have to change this status quo. In this case, corporate entrepreneurship has attracted increasing attention in the Chinese SOEs's reform (Zhang, 2019; Luo, 2005; Tang, 2007). The related policies and strategies were established by the government and SOEs' managers to motivate corporate entrepreneurship activities that enhance SOEs'

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competitive advantages and performance through a set of innovative and restructuring actions.

Organisations are forced to change when the environment is dynamic, whilst also needing to apply capabilities and resources to stay competitive (Newbert, 2008). Therefore, organisations have to enhance their capacities when facing pressure from environmental change, and thereby obtain sustainable competitive advantages. The ability for organisational change is determined by “receptivity” and “non-receptivity” (Butler, 2003; Butler & Allen, 2008; Newton et al., 2003; Pettigrew et al., 1992). In the ORC theory, Butler and Allen (2008) asserted that the higher the receptivity for change, the more flexible organisations are to adapting to environmental pressure. They also state that receptivity factors are dynamic capacities that organisations apply in order to enhance their ability to adapt and change.

Another theory that can also explain this argument is organisational change capacity (OCC). OCC explains how organisations adapt to environmental pressure through their organisational and managerial capacities (Judge & Douglas, 2009). However, the development of OCC mainly depends on the resource-based view (RBV) (Pettigrew et al., 1992). Compared with OCC, the development of the ORC construct not only focuses on resources but includes more institutional elements. This research pays attention to how institutional factors affect change in the Chinese SOEs context, therefore, ORC is more suitable in this research than OCC.

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Organisational receptivity for change (ORC) has been considered an essential condition for organisations to achieve competitive advantage and for surviving in a continuously developing environment. The proposal of ORC was based on several theories. First, the institutional theory (DiMaggio & Powell, 1983), which focuses on homogeneity within the industry (Scott, 2001; 1995). It explains how legitimacy forces organisations to become "similar" to other participants in their industry field when they face challenges, and how following the mainstream practice as authoritative principles affects the organisational behaviour (Scott, 2004). The second theory is the resource-based view (RBV), which focuses on the heterogeneity aspect of the industry (Barney, 1991). It explains how organisations adapt to the uncertain environment through acquiring and manipulating their capabilities and resources (Pfeffer & Salancik, 1978). To be more specific, the requirement of resource optimisation drives the organisation to become "different" to other competitors (Newbert, 2008) because the organisational strategies pursue organisational competitive advantage based on a balance between the organisation's unique capacities/resources and legitimacy (Oliver, 1997).

This thesis applied the proposition of combining the institutional theory and RBV (Taha, 2014; Oliver, 1997) to explain the ORC theory. This proposition provides a perspective that ORC emphasis on how organisations adapt to the dynamic change based on conjoining their unique resources/capabilities and institutional factors. It also explains competitive advantage from two aspects: 1) which organisational

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capacities and contexts allow organisational development to follow the homogeneity-heterogeneity guidelines, and 2) whether these capacities and contexts enhance the organisational competitive advantages and performance.

Nowadays, the change receptivity ability of organisational leaders and managers has become a priority for management. Burnes (2004) states that the implementation of organisational change depends on the organisational strategy. Traditionally, ORC has been applied in the research of strategic change at the organisational level in the most previous studies. The evidence showed that in large-sized companies, workers mostly communicate with each other within their departments. They usually prefer to share organisation-related norms, attitudes, and cultural values in the same department instead of cross-department. Therefore, it is more meaningful to investigate the large-sized companies based on the department level rather than the organisational level (Tang & Gao, 2012). Therefore, this research aims to advance the ORC theory through the departmental level perspective.

Although existing ORC studies did not examine its impact on corporate entrepreneurship, Butler and Allen (2008) stated in their research that the second level of ORC construct (possibility space) emphasised that it "captures creativity in organizational processes" (Butler & Allen, 2008: 431). Corporate entrepreneurship responded to a policy agenda on Chinese economic reform that enhances SOEs' competitive advantages and performance through a set of innovative and



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restructuring actions (Song, 2018). Corporate entrepreneurship includes innovation, venturing activities, and strategic renewal efforts (Zahra, 1996). Increasing competition in the business environment makes innovation and creation more important nowadays, thus corporate entrepreneurship becomes a critical element for organisational competitiveness and development (Tang, 2014). It is widely believed that if the transformation refers to innovation, a new arrangement or recombination of the existing resource, and promotes the creation of sustainable economic value, it builds up the relationship between transformation and corporate entrepreneurship. On the other hand, if the organisations can recognise or capture the new opportunities through cost-cutting, re-engineering, or introducing new technology during the transformation, it is another way of exploring the relationship between transformation and corporate entrepreneurship (Thornberry, 2001). Butler and Allen (2008) argue that ORC is a higher-order construct which acts as a mechanism for organisations to utilise and achieve their strategic agenda. In this case, it is necessary to explore the relationship between ORC and corporate entrepreneurship in the Chinese SOEs context.

Additionally, both theory and previous empirical findings have shown that the receptivity factors benefit performance because its dynamic and interactive nature helps organisations accept change and reduce the risks in a dynamic environment. To a certain extent, it then enhances an organisation's competitive advantage and performance (Butler, 2003; Taha, 2014). However, in order to understand coherently

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what factors can impact the ORC-performance link, there still needs to be a clear version. This thesis further examines how corporate entrepreneurship plays a role in the ORC's impact on performance.

## **2. Background**

China's economic reform has been continuous for four decades and Chinese SOEs always play the dominant role in China's economic development (Chow, 2015). SOE managers are commonly considered to be limited in being able to execute administrative procedures, but rather, it is that they lack incentives to pursue market-based and efficiency-driven innovation activities (Freund, 2001). Hence, SOEs seem to gradually lose their innovativeness and competitiveness. However, in reality, there are many SOEs in emerging economies that have become capable and dynamic instead of the predicted "dying dinosaurs" (Ralston et al., 2006: 826). For example, China's oil sector is dominated by three large state-owned oil companies (CNPC, Sinopec, CNOO), which are responsible for building and operating pipelines as well as developing and managing national strategic petroleum reserves (Meidan, 2016). After years of reform and restructuring, they are now in the top ten oil companies in the world and play a significant role in global oil exploitation and trading (Meidan, 2016). According to the institutional perspective, governments play a significant role in the emerging economies, which critically impacts governance policies and control

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over rare resources, thus establishing a strong organizational competitive environment (Nee & Oppen, 2012). SOEs can gain improved innovation in acquiring policy information and valuable resources through government support (Chen et al., 2014; Musacchio & Lazzarini, 2014).

Nowadays, the managers of SOEs are facing explicit performance requirements, within a relatively short time frame, set by the Chinese government (Gao et al., 2015) in order to compete with private enterprises in the open market, especially after China joined the World Trade Organization (WTO) in 2001 (Peng, 2012). Chinese SOEs are therefore required to establish a set of strategies to stimulate the creative capabilities of managers and promote innovation and structure renewal activities in order to face the intensified competition in the business market.

Corporate entrepreneurship has been discussed in Chinese privately-owned companies because they represent a new type of economy within the economic transition in China. However, far less research has been done on corporate entrepreneurship in Chinese State-owned enterprises (SOEs) (Huang & Renyong, 2014; Yiu et al., 2007). Bureaucracy and rigidity have traditionally been viewed as the major issues for hindering the development of corporate entrepreneurship in Chinese SOEs (Lee & Peterson, 2000). The economic stagnation of Chinese SOEs made business managers realize that they must pay attention to corporate entrepreneurship to improve competitiveness (Liao & Sohmen, 2001). Many scholars

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(like Zhang & Jia, 2010) believe that corporate entrepreneurship will be enhanced through the reform policy directed at SOEs, that is, the separation of management and ownership. However, there are two main factors that have hindered the development of entrepreneurship in SOEs.

The first factor is the lack of motivation (Song et al., 2011). In a market economy, members of a firm must be innovative and try to improve the firm's success because they have been given this responsibility by the organisation's owner (Liao & Sohmen, 2001). However, in Chinese SOEs there is no ownership authority, therefore, they have no pressure to innovate. Additionally, the monopoly of the market causes distortions in market structure, which further causes the misallocation of resources (Gang & Hope, 2013). Furthermore, monopolists usually lack the incentive to reduce the costs of production. (Song et al., 2011). When government officials are operating as representatives of the owners it is not possible to motivate or constrain those who are functioning within the firm in the same way that capitalism does.

Secondly, the traditional management system of Chinese SOEs leads to the short-sightedness of management (Li & Lui, 2004). This is another common problem in Chinese SOEs that is hard to solve. Innovation is an on-going process and SOEs cannot be successful if plans do not have a long-term strategy. Generally, it might take three to five years, or even a decade, for the production of an important technological breakthrough to happen or for production to develop from inception to

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market acceptance (Boer & During, 2001). If an entrepreneur does not consider the long-term, he is not operating an innovative project in the real market economy (Li & Lui, 2004). Why do SOE leaders not consider the long-term? The main reason is that their positions are appointed by government officials based on the status quo and are unrelated to their entrepreneurship and innovation ability or to their long-term performance as business owners (Boer & During, 2001). Therefore, SOE managerial positions are more dependent on political factors and connections instead of entrepreneurship ability.

However, Chinese SOEs should not always be seen as rigid, for some managers of bureaucratic structural organisations have been proactively seeking and accepting change. To facilitate this, the first measure is diversifying the ownership type of SOEs by ownership transformation. The aforementioned study suggested that "ownership diversity type builds channels for sourcing and assembling the key resources required for innovation, whereas ownership concentration affects the efficiency of utilizing these resources in innovative activities" (Chen et al., 2014:2). Secondly, the Chinese government established financial support and favourable policies to drive innovation and strategic activities in different types of industries (Choi et al., 2011). Innovation and strategic activities (like R&D) often demand both support in finances and land. With the support of the government, Chinese SOEs have an edge when seeking funding and opportunities compared to other types of industries (Chen, 2014). This helps Chinese SOEs to be able to have competitive advantages in the

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aspect of corporate entrepreneurship in the economic reform.

Chinese SOEs can be used as a good research context in relation to research into receptivity for change. Chinese State-owned enterprises (SOEs) have always had a dominant position during the Chinese economic reform and have become more profitable (Berkowitz et al., 2017). Due to the special historic environmental and political background, the research of ORC in Chinese SOEs has a specific value when exploring receptivity factors playing a role in the eastern context. The departmental situation in the Chinese SOE is more complex than in the project team in general. Chinese SOE departments have a huge staff and complex culture, which is similar to organisational structure, but they still have features of teams which have specific duties to contribute to top company objectives. Therefore, it provides a good context to examine the impact of receptivity factors in the lower level. The data of this study is from the PetroChina Xinjiang Branch Companies, which are considered a significant part of the current reform strategy of the PetroChina Company (CNPC) (PetroChina Annual Report, 2018). As on-going reform organisations, PetroChina Xinjiang Branch Companies are actively pursuing innovation and restructuring management. It provides a dynamic context for the research to examine that reasoning by linking ORC with corporate entrepreneurship and to test whether such a construct might promote performance at a departmental level.

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### **3. Research Aims and Objectives**

The aim of this thesis is to build a theoretical framework, linking the ORC theory and corporate entrepreneurship, in order to examine the impact of corporate entrepreneurship on departmental performance within on-going reform companies.

In particular, this research seeks to address the following research questions:

- (1). Is the ORC framework applicable to Chinese SOEs?
- (2). Does a relationship exist where the ORC framework impacts on three dimensions of corporate entrepreneurship, respectively?
- (3). How can we model the framework associated with ORC, corporate entrepreneurship and performance under the Chinese SOEs' context?

Consistent with the proposed research questions, the research endeavour is divided into three main objectives:

- (1). To investigate different levels of managers working in different departments on their perception of ORC, based on their different experiences;
- (2). To test the influence of corporate entrepreneurship dimensions on organisational change and performance.
- (3). To build a conceptual model that demonstrates the relationship between ORC, corporate entrepreneurship, and performance outcomes.

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## **4. Expected Contributions of the Research**

The contributions of this study are divided into three ways: empirical, methodological and theoretical. The next few sections will present each contribution respectively.

### **4.1. Theoretical Contributions**

The first theoretical contribution of this thesis is to examine the relationship between ORC theory and corporate entrepreneurship. Although the previous research of ORC state that the creative activities of organisations may be impacted by ORC factors, the existing ORC studies did not explore such a relationship between them. Pettigrew et al. (1992) stated that it is necessary to investigate the relationship between various organisational factors and ORC factors in future research. Therefore, in new contexts, the new relationship between receptivity factors and other factors are likely to be identified. The creative activities in the change process were stressed by scholars in order to adapt existing behaviours and for new behaviours to emerge (Allen, 1998; Butler & Allen, 2008). Therefore, further research to ORC should go ahead with focuses on corporate entrepreneurship, as this can help focus on the creativity of a strategic agenda as well as innovation aimed at business creation and venturing within organisations (Butler & Allen, 2008; Zahra, 1996; Guth & Ginsberg, 1990).

The next theoretical contribution of this thesis is exploring mediation effects on the



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link between ORC and performance. The previous studies on ORC have demonstrated ORC factors affect performance (Pettigrew et al., 1992; Butler, 2003; Newton et al., 2003; Taha, 2014), but there are few studies that have investigated what factors can impact the link between ORC and performance. Therefore, it is necessary to explore the mediation mechanism on the ORC-performance link; “if an indirect effect does not receive proper attention, the relationship between two variables of interest may not be fully considered” (Raykov & Marcoulides, 2000:7). Furthermore, mediators are viewed as “variables through which the influence of an antecedent variable is transferred to a criterion” (Mathieu & Taylor, 2007: 142). In this thesis, the mediation mechanism provides a clear path to understanding how ORC impacts performance through corporate entrepreneurship. Hence, this study assumes that corporate entrepreneurship plays the role of mediator, which influences the relationship between ORC and performance outcomes.

#### **4.2. Methodological Contributions**

From the perspective of methodology, this study first attempt examines the ORC theory on a departmental level. For the most part, previous studies of ORC have been focused on the organisational level (Pettigrew & Whipp, 1991; Pettigrew et al., 1992; Butler, 2003; Butler & Allen, 2008; Taha, 2014). However, this research focuses on the departmental level instead of the organisational level. Generally, there will be variations in performance across units and divisions within a large SOE. For

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example, the branch companies of PetroChina have different performance assessments for their departments. It includes a “Benefit Category” (Xiaoyi Lei) which applies to the departments of oil fields and technology. This type of performance assessment focuses on the KPI of the departments' products, like oil/gas output and oil field exploration. The second category is the “Operation Category” (Yunying Lei) which focuses on the official departments. This type of performance assessment relies on the strategy target of management, which is set in different departments monthly, seasonally and annually. The third category is the “Constraint Category” (Yueshu Lei) which focuses on the logistics departments. This type of performance assessment aims to evaluate the departments' infrastructure management, safety construction and energy-saving management. Hence, the departmental level research in large SOEs becomes significant due to the difference in performance between various departments.

Additionally, in large scale organisations (as was the case in this study), workers mostly interact with each other within their own work departments (Mauno et al., 2011). Thus, staff in the same work department might be expected to share the information related to receptivity, cultural values or attitude. From the perspective of an inner group, power at the departmental level is an often-studied phenomenon in organisational behaviour (Hauge et al., 2011). Butler (2003) stated that change is a complex process and “it interconnects vertically through different levels of society” (Butler, 2003: 50). Moreover, Pettigrew (1992) stated that micro research, as well as

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macro research, is important to the study of receptivity for change, as it can better understand the change. Therefore, this study uses a quantitative method to test ORC measurement at the departmental level.

#### **4.3. Empirical Contributions**

The main empirical contribution is the application of the ORC theory to a new research context. The literature on ORC is mainly conducted in the public sector setting, such as the UK's National Health Service (NHS) (Newton et al., 2003; Pettigrew et al., 1992; Plsek, 2003). Similarly, Butler (2003) and Butler and Allen (2008) focused their research on the public sector. Butler (2003) states that ORC factors are dynamic capabilities that enhances organisational ability to adapt and change. Dynamic capabilities seem at first unrelated to SOEs, which are viewed as bureaucratic, monopolising, and lacking autonomy (Steinfeld, 1998). However, Chinese SOEs have gone through enormous changes during economic reforms and globalisation (Nolan, 2002). These changes require Chinese SOEs to transform themselves from bureaucratic organisations into modern enterprises for survival in a rapidly changing environment (Gao et al., 2015). Therefore, dynamic capabilities become more significant to Chinese SOEs, with their transformation from traditional SOEs to modern organisations in an increasingly competitive context.

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## 5. Outline of the Thesis

This thesis is divided into seven chapters. A brief description of each chapter's content and structure is presented below.

**Chapter 1** is the introduction. It describes an overview of the study and briefly introduces the background of the research. This chapter provides the justifications for the research and argues the research problems. Then this chapter also highlights the research aim, research questions, as well as objectives of the research. The chapter finally emphasises the contributions relating to being theoretical, methodological, and empirical.

**Chapter 2** is the research context. Due to the complexity of the background, the research context is a separate chapter in this thesis in order to describe the historical research context systematically. The chapter introduces the background of the study from the overview of the whole historic progress of Chinese State-owned enterprises (SOEs) reform, including the nature of the reform and the various measures in the different phases of the Chinese SOEs' reform. Then the chapter focuses on the PetroChina Company, which is viewed as an example, to discuss its features and how it measures in the reform process. Finally, the PetroChina Xinjiang Branch Company was selected as the survey context of this study to describe the outcomes of the reform in PetroChina Xinjiang and its ongoing strategies and challenges, which

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builds up the background of the overall research.

**Chapter 3** is the literature review. It first states the theoretical underpinnings of this research: resource-based view (RBV) and institutional theory. This section gives details of these two theories and explains the reason for these two theories are selected to use in this research as well as the limitations. Then this chapter provides a perspective that integrated RBV into the institutional theory. Next, the chapter introduces the perspective ORC theory that conjoins the institutional theory and RBV theory and explains why this research choose ORC in this study. Then this chapter presents the literature review on ORC theory which includes the progress of the ORC theory and existing three ORC frameworks. Follow chronology order, they are the eight-factors ORC framework by Pettigrew et al. (1992), the five-factor ORC framework by Butler (2003) and Butler and Allen (2008), the four-factor ORC framework by Taha (2014). Finally, based on the discussion above, the chapter provides the proposed conceptual model related to the hypotheses, which is based on the proposition of how the ORC theory, associated with corporate entrepreneurship, affects performance.

**Chapter 4** is the research design. It offers philosophical underpinning and research methodology which applied to achieve the research objectives. Moreover, this chapter also discusses the paradigm adopted and the implementation of this paradigm in the research design. Then, the two stages of data collection, including

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a pilot and the main study, are discussed. The final part of the chapter discusses the measurement of various factors in the conceptual model, as well as the related ethical issues that should be considered.

**Chapter 5** is the research findings. It presents the results of the analysis of the data, which aims to examine the hypotheses. Firstly, it offers the preliminary analysis results, as well as the reliability of the measurement. Then the research uses Confirmatory Factor Analysis (CFA) to refine the ORC measurement and determine the best fitting model of ORC and corporate entrepreneurship. The final part presents the hypotheses results and its interpretations.

**Chapter 6** is the discussion. It first reviews the research context that the rise of China and the importance of Chinese SOEs in that rise. Then it briefly reviews the market reform of China's oil industry to explain how Chinese SOEs are changing to be a corporation and to practise marketisation. Moreover, the chapter reviews the research aims and objectives based on the research findings, as well as the hypotheses testing. Finally, this chapter discusses the implications for future research on ORC and Chinese SOEs.

**Chapter 7** is the conclusion. It extends the discussion of the last chapter which first presents a summarised review of the research theme and provides the research contributions based on the outcomes and implications of the previous chapters. It

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also explains the limitations of the research and provides recommendations for future research. Finally, this chapter provides an executive summary of all the research in its entirety, how it has developed and the results that it shows. It ties all the chapters together into a holistic overview.

## **6. Conclusion**

This chapter gives an overview of the content and structure of the research and introduces its background. It highlights the research questions and objectives and presents the structure of the overall thesis. The details of the study will be presented in the following chapters. Next chapter will provide the detail of the research context

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## CHAPTER 2: RESEARCH CONTEXT

### 1. Introduction

Since China's reform and opening-up policy in the 1980s, state-owned enterprises (SOEs) have always been viewed as a significant part of economic reform. The reform of SOEs is an essential step in the structural transformation of China's economy. As a critical part of the China National Petroleum Corporation (CNPC), the process of organisational reform of the PetroChina Xinjiang Company could not be ignored. Due to the remote location of the company, there is limited research on the PetroChina Xinjiang, especially from the aspect of management. This research will use PetroChina Xinjiang as its case context.

This chapter's purpose is to introduce the development of Chinese SOEs since 1978 and the four phases of Chinese SOEs reform. Then the chapter will present PetroChina as a typical case for SOEs applying a set of strategies to implement organisational transformation. The final part of this chapter will illustrate PetroChina Xinjiang as the selected research context and how they implemented the changed strategies in their departments among branch companies.



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## **2. Definition of State-Owned Enterprises (SOEs)**

The state-owned enterprise (SOE) is viewed as a body established by the government, through legal means, so that it can represent government participation in commercial activities. Generally, the government has full or partial ownership of their state-owned enterprises, which are usually allowed to participate in specific activities (Lin et al., 1998). Szamosszegi and Kyle (2011) state that state-owned enterprises are defined by the Chinese government as the corporation that all assets are owned by the country. Chinese SOEs are owned by either central or local governments.

### **2.1. Role of State-owned Enterprises (SOEs)**

State-owned enterprises are mostly established by a legal operating license which has been granted to establish state ownership in companies where oil, gas and minerals are produced locally. Furthermore, the operating licence allows an SOE representing the government to enter into a contract with other entities and generate revenue (Kowalski et al., 2013). Moreover, the revenue of SOEs can be generated by the royalties paid from entities which have a contract with SOEs rather than actual currencies (Szamosszegi & Kyle, 2011).

Besides representing the government in commercial activities, state-owned

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enterprises also sell tangible assets to trading companies and institutions. Generally, the management of oil and gas is a preserve of SOEs as it provides a way in which the government can be held accountable on matters such as exploiting resources (Nolan & Xiaoqiang, 1999).

State-owned enterprises are also known by the name of government business corporations, which can be easily confused with listed corporations (whose stock is partly owned by the government). However, listed corporations belong to private companies, although both types of companies are partly owned by the governments (Qiang, 2003).

SOEs are mainly spread all over China, the USA and South Africa. For example, Fannie Mae and Freddie Mac are the most known SOEs in the USA (Stanton, 2009). Moreover, in China, many SOEs like PetroChina and Sinopec, which were fully owned and operated by the government before the economic reform (Young, 1998). In other countries, such as South Africa, Eskom is one of the biggest SOEs owned and operated by the government (Eberhard, 2005). From a legal point of view, SOEs can be seen as business entities as they are commercial enterprises on their own. Therefore, they must comply with relevant laws and regulations in their operations (Kowalski et al., 2013).

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## **2.2. Development of State-owned Enterprises (SOEs)**

Despite SOEs are organisations for profits, not all of them are profitable. Although many SOEs have been operating at a loss, the core business, especially those are in infrastructural development receive financial support by governments to keep them operating. In this condition, governments invested heavily in SOEs but no return (Bozec & Breton, 2003).

Nowadays, many SOEs are pursuing corporatisation in order to achieve profit like profit-making organisations. In the technical perspective, these SOEs operates as business entities, but they strive to achieve the desired goals from governments (Bozec & Breton, 2003).

So far, SOEs still the backbone in many developing countries (Yu, 2014). Governments are able to take adventures on commercial activities through SOEs, like explorative resources. However, some SOEs have incurred negative reputations due to corruption and exploitation (Cheng, 2004). Nevertheless, SOEs are still considered to be an avenue to help enhance economic growth and development if they are put to good use and are managed well (Yu, 2014).

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### **3. Background: An Overview of Chinese SOEs and Main Transition Approaches of the Reform**

Over the past forty years, the reform of Chinese SOEs has been viewed as the core element during the process of the Chinese economic reform. Due to SOEs, as the core force during the Chinese central planning period, the transformation of the SOEs was the most prominent compared to other types of institutions involved in the transition to a market-based economy. With the decreasing scope of the SOEs, the market-oriented economy has developed. Unlike the ex-socialist European countries, the reform of Chinese SOEs did not experience widespread and rapid privatisation (Naughton, 2007; Zhang, 2009). Reformers in China confessed that it could cause significant political, social and economic consequences to breaking up the existing economic type in a short time without creating the essential conditions for change (McMillan & Naughton, 1992). Therefore, the transformation of the Chinese economy is known for its experimental and progressive approach to reform. The SOE transformation is a typical example of the Chinese characteristic reform. The Chinese Government announced repeatedly that the primary target of market-oriented transformation is to build a socialist market economy with the lead of SOEs. This strategy and implementation significantly influenced the outcome of the previous SOEs reform and the direction of SOEs future changes (Song, 2018).

In the central planning system era, SOEs were viewed as the main economy for non-

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agricultural system industries. The major function of SOEs was to achieve government targets related to production and distribution. Therefore, SOEs mostly had no autonomy in determining the price of products or making strategies on the number in the workforce and the amount of profit made due to the government playing a critical role in planning, coordination and resource allocation. It meant that the guidelines for SOEs' production decisions were impacted by the policies of economic and industrial sectors of government instead of product prices (Naughton, 2007). Moreover, SOEs as Government Agencies were also responsible for their staff's welfare as well as their families, which included medical treatment, education, housing and retirement (Chow, 2015). Hence, the lack of market-oriented incentives and miscellaneous functions led to the low efficiency of SOEs in the period of a planned economy. These problems made SOE reform become the primary strategy of economic transition, and the main implementation is to adopt a market mechanism for resource allocation and promote efficiency with expanding production. In the literature on Chinese SOEs, the approaches to transformation and related policy measures have concentrated on the following aspects.

### **3.1. Ownership Transformation**

The first step in the reform of China's SOEs is the transformation of ownership. This measure was achieved by "reducing the government's holdings of SOE assets through the partial or full privatisation of SOEs" (Song, 2018:347). This approach

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brought two impacts: first, it can ease the government's burden due to inefficient SOEs; second, it also creates the opportunity for growing up private firms (Song, 2018; Garnaut et al., 2006). In short, the transformation of ownership significantly influenced the emergence of non-state enterprises, as well as promoting market competition in the early stages of economic transformation (Jefferson & Su, 2006).

### **3.2. Autonomy and Corporation of Chinese SOEs**

In principle, the major aim of the SOEs reform is to decrease the interference of government and delegate autonomy to the SOE managers. However, this has led to the “principal-agent” problem due to the separation between ownership and control (owners and managers) (Song, 2018). Milhaupt and Zheng (2015) suggested that the agency cost theory shows that managers in enterprises acquire the advantages of internal information, which may lead to managers abusing their power to benefit themselves. It was generally the case that this problem happened in SOEs because of weak monitoring, as the cost of monitoring was expensive, as well as the lack of incentives from supervisory agency officials. This explains why the issues of autonomy and monitoring have been recurrent, although the relationship between government and enterprises undertook a huge change after the sustaining reform phases. During the 1980s, the core of the Chinese SOEs reform was “enterprise autonomy” (Huang, 1999). Even after 30 years, to increase the independence of enterprises is still an important component in the latest round of SOE reforms

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(Naughton, 2016).

### **3.3. Commercial Objectives and Policy Functions**

Another aspect of China's reform of SOEs which should be mentioned is the dual characteristics of SOEs which were given by the economic transformation. First, the government required transformed SOEs to be profit-oriented, however, SOEs were not allowed to relinquish the responsibility for achieving government policy targets. To some extent, despite the notion of the "iron rice bowl", this responsibility had been declining as the reform progress. SOEs were, however, still supposed to be responsible for maintaining social stability, such as protecting employees' welfare and providing employment, especially during the period of economic instability (Song, 2018).

Progress in the efficiency of SOEs over the past four decades has been obvious. SOEs significantly contributed to the development of large-scale infrastructure projects, which were implemented by both central and local governments in order to support economic development. Furthermore, SOEs had been viewed as critical in the development of technology, therefore, the government provided abundant financial support to achieve these strategies. Meanwhile, the profit of SOEs also contributed to making a stable society and increasing welfare. These implementations made it difficult to assess the outcome of the reform and performance of SOEs. Bai et al. (2006) state that the multi-objective operation of

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SOEs negatively influences economic performance.

#### **4. Chinese SOEs Reform Phases**

Generally, the process of reforming China's SOEs was considered as being experienced in four phases, based on the standard policy documents of the Communist Party of China (CPC), as well as the significant change initiatives by the Chinese Government. These can be summarised by these distinctive events: enterprise contract responsibility system (1978-1992); ownership transformation (gaizhi) (1992-2003); restructured and merging of SOEs (2003-2013); dual-track evaluation approach and government-directed mergers (2013-present).

##### **4.1. First Phase - 1978-1992: Autonomy using the contract responsibility system**

At the preliminary stage of the economic reform, the ownership of SOEs still belonged to the state due to strong political and ideological concepts. Therefore, the government established the policy to enhance the autonomy of SOEs and introduce a market mechanism in order to promote the SOEs' performance (Chow, 2002).

In the early 1980s, the "Enterprise Responsibility System" was first introduced into the SOEs reform. The main objective was to improve productivity, output and



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profitability. Furthermore, enterprises were allowed to keep a certain portion of the profit after completing the national plan in order to make a strategy for product marketing and workforce adjustment at the next stage (Song, 2018). In this case, SOEs adopted both a state compulsory plan and a market-based strategy.

In 1985, the system was updated to the “Contract Responsibility System” which built a formalised relationship between the government and SOEs. Huang (1999) states that by the end of 1998, 98% of SOEs were under the “Contract Responsibility System”. The development of this system emphasised on responsibilities of enterprises on gains and losses, which helped the stable of enterprises’ quotas for output and profit (Song, 2018).

The market entry and firm autonomy brought huge changes to the SOEs, which improved Chinese industrial progress, particularly between the 1980s and the early 1990s. Moreover, the reform led to increasing competition among the industrial markets (Jefferson & Rawski, 1994). At this stage, the first step of marketisation of Chinese SOEs reform was almost achieved (Naughton, 2007). It’s worth mentioning that although lacking government support, private companies began to grow in this period of time (Song, 2018).

The performance of SOEs made huge progress in the first half of the reform. Huang (1999) found in the study that the “labour and total factor productivity (TFP)” of

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Chinese SOEs were enhanced due to join the market competition. However, the financial performance of Chinese SOEs got worse in the mid-late 1980s (Jefferson & Rawski, 1994). The evidence showed the profit rate (returns on fixed assets) of SOE's dropped from 18% in 1985 to below 6% in the 1990s (Song, 2015). As a consequence, the SOEs' contribution to the government declined and the number of loss-making enterprises increased (Huang, 1999).

There is no doubt that the increased market competition could've been the major reason which led to the undesirable performance of the SOEs. However, other issues related to the organisational functions, management and monitoring were also factors for this poor performance. First, there was no social security system in the early transformation context. SOEs had to be responsible for the staff's social welfare, education and housing, and also for maintaining employment for redundant employees (Song, 2018; McMillan & Naughton, 1992; Song, 2015). Moreover, despite the "Contract Responsibility System" having the initial achievement on the relationship between the government and enterprises, there was still contract control instead of direct control by the government. However, researchers stated that after organisations were given autonomy this system caused a problem for the supervision of managers due to the separation of control and ownership (Song, 2018; Song, 2015). Additionally, some scholars stated that many SOEs' managers exist the issue of abused power for personal benefits during this time (Huang, 1999; Chow, 2002).

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## 4.2. Second Phase - 1992–2003: “Grasping the large and letting the small go”

### Policy (*zhua da fang xiao*)

The rising losses of SOEs were the critical element that led to further transformations (Garnaut et al., 2006). The second phase of reform began in 1992 which focused on ownership transformation (*gaizhi*). The main objective of this phase of reform was aimed at the privatisation of SOEs (Song, 2018) and expanding the market economy (Naughton, 2007).

In order to achieve the ownership transformation (*gaizhi*) of SOEs, the government successively established Company Law and Competition Law during 1993-1994, which aimed to build a regulatory structure for the monitoring issues of SOEs and grow multi-ownership organisations (Mattlin, 2007). Moreover, another policy “*xiagang*” (laid-off) was established to allow SOEs to lay off large numbers of employees during the ownership change process (Jefferson, 2016; Song, 2018). In the following years, the government built a social security system in 1997 (Chow, 2002) and established the Securities Law in 1999 to support the policy of “*gaizhi*” in SOEs (Naughton, 2007).

The “*gaizhi*” policy not only contributed to the substantial transformation of the SOEs but also impacted the associated changes of non-state organisations. Song (2018: 352) states that “‘*gaizhi*’ created an essential channel for transferring state production assets to the non-state sector”, In turn, “the expansion of non-state

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enterprises supported the privatisation process by absorbing workers laid-off from the restructured SOEs” (Song, 2018: 352). In short, the outcome of this phase of reform was a better allocation of resources among organisations.

Privatisation was also successful from the perspective of productivity. Some studies also noticed that ownership transformation able to enhance the productivity of restructured organisations, and then had a positive impact on the financial performance of SOEs (Sun & Tong, 2003). As shown in Table 2.1, it could be found that state-controlled shareholding enterprises showed better performance after “gaizhi”. It is due to the share of loss-making companies in state-controlled shareholding enterprises (12%) is lower than that in the purely state-owned enterprises.

Despite Chinese SOEs' performance enhanced by the wider restructuring measures, they still falling behind private corporations. The weak financial performance is still a primary issue of SOEs, hence it is necessary to take further reform policy.

**Table 2.1: Share of loss-making enterprises by ownership type, 1999–2017  
(per cent) (Song, 2018: 371)**

Year	State-holding	State-owned	State-controlled	Private	Total
1999	39.2	41.1	29.9	7.9	27.3
2000	34.1	36.4	25.3	13.8	23.4
2001	36.0	39.0	27.7	13.4	23.0
2002	36.1	39.4	28.0	11.9	20.8
2003	35.2	39.2	26.9	10.9	18.6
2004	37.4	42.6	27.4	14.6	21.1
2005	35.5	41.0	26.9	11.9	17.8
2006	31.9	37.6	24.1	10.6	15.6
2007	25.8	30.3	21.6	9.2	13.6
2008	27.4	29.7	25.5	10.8	15.3
2009	26.3	29.2	24.0	9.8	13.8
2010	21.4	24.4	19.2	6.9	10.0
2011	20.6	22.2	19.6	6.0	9.4
2012	24.0	25.5	23.1	7.9	11.5
2013	24.7	26.4	24.2	7.8	11.3
2014	26.7	29.5	26.0	8.1	11.5
2015	28.9	28.4	29.0	9.1	12.6
2016	25.6	26.2	25.5	7.8	10.8
2017	24.7	26.9	24.4	9.0	11.8

Note: The state-holding enterprises include state-owned and state-controlled enterprises.  
(Source from CEIC China Database)

#### **4.3. Third Phase - 2003–13: Merge large SOEs and “Going Out” Strategy**

The next phase of reform is to continue implementing organisational change based on the “gaizhi” policy to maintain the primary position of SOEs in the Chinese economy. On the other hand, the government planned to use SOEs to expand the foreign market, which called "Going Out" strategy (Jones & Zou, 2017). Although the strategy was stated in the 1990s, the implementation of "Going Out" strategy was accelerated by the government from 2003. At this situation, the government

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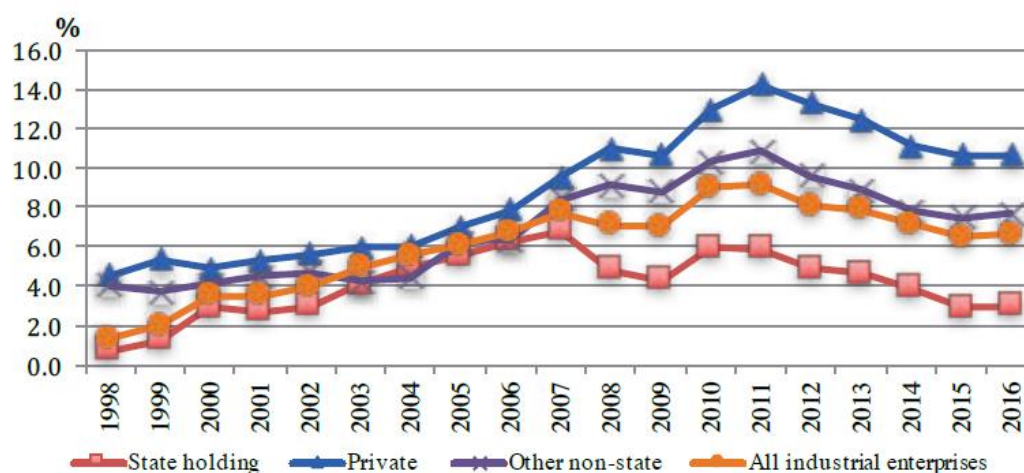
continuing ownership transformation to merge SOEs to become huge corporations in order to enhance their global competition (Jones & Zou, 2017).

The evidence shows that between 2003 and 2007, the productivity of SOEs continued to show a significantly positive effect based on the last phase (1998-2003). Brandt and Zhu (2010) state that between 1998 and 2007, SOEs' 'Total Factor Productivity' (TFP) growth was significantly higher during the period between 1988 and 1998, and even higher than the non-state companies. Hsieh and Song (2015) also found an obvious increase in the SOEs' TFP due to the organizational restructure during this period. In terms of financial performance, SOEs also achieved significant progress between 2003 and 2007. As shown in Figures 2 and 3, the Returns on Total Assets (ROA) of SOEs increased from 4% to 7% and the Returns on Equity (ROE) rose from 11.5% to 16%, which came close to non-state companies (ROA= 9.5%; ROE= 21%).

Nevertheless, the financial performance of SOEs deteriorated from 2007 to 2013. It can be seen in Figures 2 and 3, that both the ROA and ROE of SOEs declined between 2008 and 2009, and during 2012 and 2013, but it picked up briefly in 2010 and 2011. This situation was partly due to the Global Financial Crisis (Felton & Reinhart, 2011), but the increasing gap between the financial performances of SOEs and private companies (shown in Figures 2.1 and 2.2) shows that it was also due to the SOE issue itself. The figures present the gap between SOEs and private

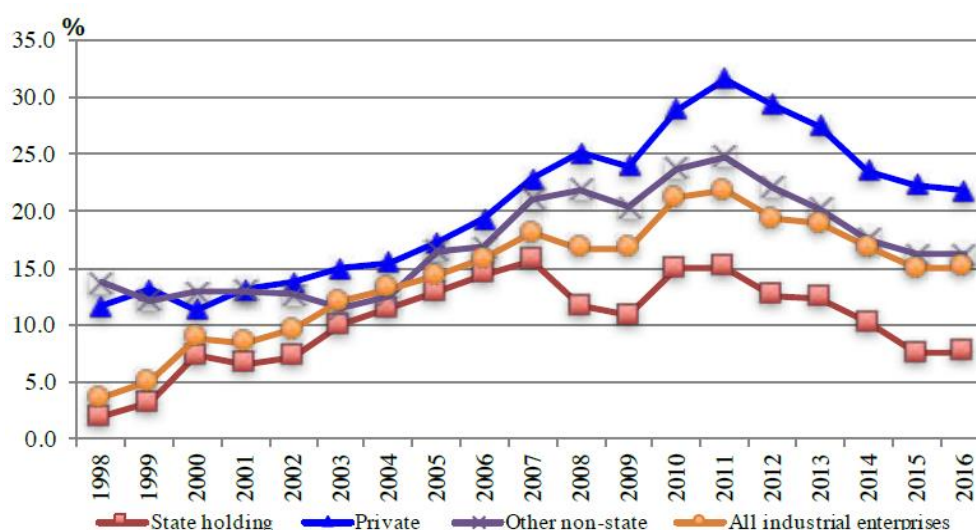
companies which rose from 5% to 8% in ROA and from 11% to 15% in ROE.

**Figure 2.1: Returns on assets (ROA) of industrial enterprises by ownership type (per cent) (Song, 2018: 355)**



Note: The state-holding enterprises include state-owned and state-controlled enterprises. (Source from CEIC China Database)

**Figure 2.2: Returns on equity (ROE) of industrial enterprises by ownership type (per cent) (Song, 2018: 355)**



Note: The state-holding enterprises include state-owned and state-controlled enterprises. (Source from CEIC China Database)

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Song (2015; 2018) states that the deterioration in the performance of the SOEs can be attributed to some elements of the operation and governance of SOEs. The first element is the complicated policies and objectives of SOEs. Generally, besides the commercial objectives, SOEs had to be responsible for the public but non-profitable functions, such as maintaining social stability, macroeconomic stabilization and crisis response. Overstaffing due to the corporate combination was also an issue. Moreover, the “soft budget constraint” was another problem impacting the performance of SOEs (Jefferson, 2016). The concept of “soft budget constraint” (Kornai & Maskin, 2003) “pertains wherever a funding source (e.g., a bank or government) finds it impossible to keep an enterprise to a fixed budget, i.e., whenever the enterprise can extract a bigger subsidy or loan ex-post than would have been considered efficient ex-ante” (Maskin, 1996:125).

The second problem was the lack of supervision of managers which was caused by the autonomy given to SOE managers under the “contract responsibility system”. Managers of SOEs were given autonomy to make decisions on company operations, marketing, and investment. Although the government had several measures of personal supervision, they were hard and costly to execute due to internal control and delegated authority (Milhaupt & Zheng, 2015). Furthermore, managers of SOEs have significant power in both aspects of administration and party (Song, 2018). It caused rampant corruption among the leaders of SOEs because they can make business decisions for their own benefit (Hsu, 2014).



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#### **4.4. Fourth Phase - 2013-Present: Renewed Reform of Mix-ownership and Management - Challenges Ahead**

In 2003, the eighteenth National Congress marked the next chapter in the reform of SOEs. The government established a new policy for the reform of SOEs, including: 1) “defining the functions of SOEs to determine the levels of state ownership and control”; 2) “promoting mixed ownership”; and 3) “shifting from asset management to capital management and increasing dividend payments for social security funds” (Yang, 2015: 59). However, these substantive measures weren’t implemented until 2015 when the details of the guidelines were created (Naughton, 2016).

The 2015 guidelines on the reform of SOEs meant that the SOEs were divided into two types, a public category (Gongyelei) and a commercial category (Shangyelei), in order to create a dual-track evaluation method for the SOEs’ performance. To be more specific, this guideline emphasised that the political logic, instead of the market logic, should remain as the dominant position in SOEs, while improving market competition and increasing financial performance would be the priority objectives of SOEs as the commercial logic. Although it seemed like huge progress in the marketization of SOEs, the guideline still emphasized that SOEs should be controlled by the Communist Party of China (CPC). Nevertheless, this meant that there was at least partial participation by the private sector in the board of directors, which brought economic capital and management experience and may potentially have promoted the financial performance and efficiency of SOEs. At the same time, the Chinese

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government invested in SOEs on exploring and developing new industries and high and new technology (Song, 2018), which could be considered the government restructuring strategies for promoting innovative activities to foster productivity of SOEs (Naughton, 2016).

The second measure of 2015 guideline was the corporate combination of government-direction to make SOEs stronger and larger. The government intended to eliminate unprofitable SOEs without sacrificing employment in order to ease price wars among SOEs (Leutert, 2016). Nevertheless, the government-directed combination was a double-edged sword, it did end price wars but also caused administrative monopolies. From an international perspective, the measure of government-direction enhanced the global competitiveness in the short-term, however, from a long-term perspective, as the result of less pressure in the domestic market context, it led to a decline in global competitiveness which was caused by having less motivation to improve operational efficiency and product quality (Song, 2018). Moreover, the huge state corporates also exposed the weakness of organisations, such as communications gaps, weak supervision, low efficient operations, as well as redundant departments and employment (Leutert, 2016).

The renewed reform made a significant impact on the structure of SOEs. Song (2018) states that from 2013 to 2017, the number of pure SOEs dropped consecutively while the number of state-controlled shareholding sectors grew rapidly in the same period.

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It means that the ownership transformation (gaizhi) measures are still continuing. In contrast to the declining number of enterprises, the size of pure SOEs increased dramatically between 2015 and 2018. It means that the initial outcomes of the corporate combination have been achieved. However, as shown in Figures 2.1 and 2.2, the ROA and ROE of SOEs showed a downward trend, which means the financial performance of SOEs did not improve under these measures. It could be understood that despite the government taking more radical actions at this stage, the outcomes of the performance of SOEs still need time to prove.

#### **4.5. Summary**

To summarise, this section explained the reform of Chinese SOEs over the past 40 years. Put simply, SOEs always viewed as the backbone of China's economy from the central planning era to the modern market economy, Chinese SOEs have been a critical element of China's economic reform. The reform of Chinese SOEs contributed to the economic development of China presented in two aspects: first, the SOEs transition promoted and created conditions for the emergence of other ownerships firms; second, the change also improved the efficiency and competitiveness of SOEs themselves, which in turn made sure the SOEs maintained their substantial position in China's economy. Until now, the reforming has helped build a new generation of SOEs with a significant level of internationalisation and diversified types of ownerships.

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## **5. The PetroChina Company Ltd. CNPC: a specific organisational exemplar site in Chinese SOEs Corporate Reform**

The PetroChina Company Limited is a Chinese gas and oil enterprise and belongs to the state-owned China National Petroleum Corporation (CNPC). As an important restructured SOE, PetroChina established a limited liability company in May 1999, which was based on the Company Law of the People's Republic of China. Through a series of restructuring measures, PetroChina became the most profitable company in Asia (Leutert, 2016).

The main contents of PetroChina's reform are divided into two categories: the reform of the whole Company and the restructure of the subsidiaries. For the company as a whole, the main measures of reform include separating PetroChina and Sinopec to confirm their jurisdiction and independence. The second main measure is mergers and acquisitions of several petroleum firms to enhance the competitiveness, which is also called the "zhuada" (grasp the big) in the government policy. As a subsidiary, the PetroChina Xinjiang Company was selected for a case context with information being obtained through fieldwork in order to discuss the main measures of reform in subsidiaries. The main measures include labour reduction and the separation of production and service companies.

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### 5.1. Reform Measures of the Whole Company

The first stage is to reorganise the geographic lines between the CNPC and one of the other biggest petroleum enterprises in China, Sinopec. In 1998, CNPC formally took over the petroleum industries in north-east, north-west, and south-west China; the typical areas are Daqing, Liaohe, Karamay, Tarim and Sichuan provinces, while Sinopec finally took over the oil fields and petrochemical industries in eastern, northern of China (Fesharaki & Wu, 1998). Since then, CNPC and Sinopec with two other oil corporations: China National Offshore Oil Corporation (CNOOC), and Sinochem Corporation, which became four monopoly corporations of China's oil industry.

The second measure of CNPC's reform was to build conglomerates that can compete with major international energy enterprises (Young, 1998). In order to realise this strategy, several petroleum firms were merged; these actions were considered as a part of the government's "zhuada" (grasp the big) policy. Nolan and Wang (1999: 190) named these cases as "administrative mergers". They pointed out that the objective for large state-owned enterprises absorbing loss-making state enterprises is to promote their technologies and improve their management approaches (Nolan & Wang, 1999). The government act a mediator role in the process of "administrative merges" (Smyth & Qingguo, 2001).

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## 5.2. Restructure of Subsidiaries

After CNPC was restructured, the government took a series of measures to reorganise the subsidiaries of CNPC. The main objective of this stage was to prepare for the listed company of CNPC. In 2000, PetroChina Limited Company became the listed company established by CNPC (Smyth & Qingguo, 2001). The PetroChina Limited Company explains its relationship with CNPC that the CNPC is the controlling shareholder of the PetroChina Limited Company. CNPC has no authority "directly interfered with the PetroChina Company's decision-making, production or operation" (PetroChina, 2020).

The rest of this section discusses the subsidiaries reform stage of the CNPC according to the research survey done at the PetroChina Xinjiang Company and its branch companies. The period of the survey was between February and August 2018, and during January 2019.

PetroChina Xinjiang Company is the largest oil enterprise in the west of China and belongs to PetroChina limited. The majority of operations at PetroChina Xinjiang are based on exploration and development, gathering and transportation, as well as sales and distribution in the Junggar Basin in the north of Xinjiang and the Tarim Basin in the south of Xinjiang. The Karamay oilfield was the first oilfield developed after the People's Republic of China was established and is the core of the PetroChina Xinjiang Company. The crude output of Karamay is the fourth largest in

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China's onshore oil fields and has kept a stable growth for 25 consecutive years. Moreover, the current approved resource rate of oil and natural gas in Karamay is only 21.4% and 3.64% respectively, which means the oilfield is still at the beginning of exploration and has huge potential (PetroChina Business Strategies, 2019). Therefore, the organisational structure and management of the PetroChina Xinjiang Company has paid attention to valuable during the reform strategy in PetroChina and can also be viewed as a significant part in the study of the reform of Chinese SOEs.

#### **5.2.1. Surplus Labour Reduction**

One of the most important measures in the reform of subsidiaries is reducing the surplus labour, which called the *xiagang* (laid-off) policy. This measure implemented in 1999, there are a large number of the workforce was laid off during this time (Smyth & Qingguo, 2001, Mollett, 1999).

However, compared to the subsidiaries in north-eastern China which joined the first batch of the "laid-off" policy (Smyth & Qingguo, 2001), most of the reduced employees in PetroChina Xinjiang were asked to buy out of their length of services (*maiduan*) instead of "laid-off". The "*maiduan*" policy is relatively mild than "laid-off", the "*maiduan*" employees can receive a severance package which depends on the seniority. Workers can still enjoy the basic social welfare from the company (like medical insurance). In addition, "*maiduan*" employees can be turned into staff

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working in the outsourcing service companies which belong to PetroChina.

### **5.2.2. Separation of Production and Service Subsidiaries**

The policy of separating subsidiaries into production and service was beginning to be implemented by 1999. The first measures taken were in the north-eastern subsidiaries (Smyth & Qingguo, 2001). However, it wasn't until 2017 when PetroChina Xinjiang acknowledged the formal document to separate the subsidiaries into production and service. The main process of separation lasted for two years and was mostly completed in 2019.

During the restructuring, the production companies were given more financial support and high-tech investment, while the service companies were given the responsibilities of social welfare. This was in order to promote the efficiency of the production companies and to attract potential investors (Smyth & Qingguo, 2001). Within the service companies' category, the majority only rely on providing services whilst a small minority of service companies have their own products which can create profitability, and these companies can survive as independent entities.

### **5.3. Current Challenges and Objectives**

The reform of SOEs now still be viewed as the essential stage of China's economic reform (Leutert, 2016). With the policy of "One Belt One Road" established by the Xi



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Jinping administration, the reform of Chinese SOEs become increasingly significant. Economically, Chinese SOEs is still viewed as the backbone of the domestic economy and is expected to expand their investment and cooperation abroad. Politically, Chinese SOEs have responsibility for domestic social stability, and for the overseas market, they are considered as the “arms-of-the-state” in order to increase national competitiveness (Jones & Zou, 2017).

However, the huge size, complicated structure and bureaucratic organisational culture of SOEs increase the difficulty of reform implementation at Chinese SOEs. Although the Xi Jinping administration actively changed the stable top-leader team of SOEs in order to achieve devolution of authority, shuffling executives cannot completely eliminate their multi-relational network in the company (Leutert, 2016). The reform of Chinese SOEs presents an exhausted trend due to the issues of serious corruption, rising debt and declining performance (Leutert, 2016).

In order to achieve these targets, PetroChina established six major strategies, including: “deepening reform”, “open for cooperation”, “technological innovation”, “talent pooling”, “corporate ruling by laws”, and “ensuring safety throughout company development” (PetroChina, 2020). In the 2018 annual report, the top leadership team of PetroChina emphasised that the company will strengthen the infrastructure, enhance the structural adjustments and fix weaknesses so as to increase managing risks and profitability, then keep the development momentum, competitiveness and

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validity in order to achieve stable development of sales and production. Additionally, the top leadership team at PetroChina also talked about focusing on "improved operating results with a stable and harmonious environment for development and steadily improved corporate image" (PetroChina, 2020). These approaches will help the company to move towards a steadier, sustainable, and more environmentally friendly development.

Since the beginning of the thirteenth Five-Year Plan, the PetroChina reform has come to a new stage. PetroChina announced the target of clean energy and low-carbon development during the "the 13th five-year plan period" and in future plans (PetroChina Sustainability Report, 2017). The major strategy of the reform within the company is to transfer the development force from investment to innovation. Then the company will not only focus on innovation in technology but also on relating management, mechanisms, business models and organisational culture to strengthen the new advantages in technology, resources and markets. Third, the company will improve self-innovation, integrated innovation and re-innovation instead of imitating and following peers. Building a set of core technologies which are competitive in the world is a long-term target. Finally, the consciousness of innovation will be infused in all staff rather than only research and development (R&D) personnel. The company encourages the managers and employees to drive innovation together to make innovation become a part of the organisational culture throughout the company (PetroChina Annual Report, 2018).

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Following the steps developed by the strategy of corporate headquarters, PetroChina Xinjiang aims to achieve innovation in two main ways: first is to develop technology in exploitation and service; second is to optimise the organisational structure in order to give more power to middle managers in their departments.

### **5.3.1. Technology Development**

PetroChina Xinjiang invested a lot in technology, both in their production companies and service companies. In 2018, the new gas field in Tarim and oil field in the Ma Lake area of Xinjiang were discovered through highly technical exploration equipment. It further reinforced the foundation of resources for keeping oil production stable and increasing gas output (PetroChina Annual Report, 2018). In the oil field of the Ma Lake area, PetroChina Xinjiang aims to optimise the development production structure to promote capacity construction and ensure all the benefits of development. When it comes to the development of gas fields in Tarim, the main objective is to strengthen weak management as well as improve capacity construction. At the same time, it is still necessary to push forward the development of unconventional oil and gas, such as coalbed methane and shale gas (PetroChina Annual Report, 2018).

In terms of the service companies, PetroChina Xinjiang made an investment in the

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innovation research of the service companies in order to improve their products diversity and distribution channel. Firstly, the service companies build up the “West-East gas pipeline” system for commercial operation. Secondly, the service companies update the network system to cover the products sell and storage system as well as after-sales services. Thirdly, the service companies deepened cooperation with different industries, such as the Chinese Commercial Bank and transport industry to create an integrated “one-stop” service platform (PetroChina, 2020). The main objective of PetroChina Xinjiang is to make a “self-sufficient strategy” for their service companies through innovation investment. They were also encouraged to introduce their services to the market outside their own company.

### **5.3.2. Flattened Organisational Structures**

PetroChina Xinjiang started to optimise the organisational structure in 2017. The main objective was to change the traditional vertical level management mode to achieve flattened structures. The final objective of this reform is to empower top managers’ authority to middle managers. This reform was first piloted and practised in the property management company and then spread to other service and production companies.

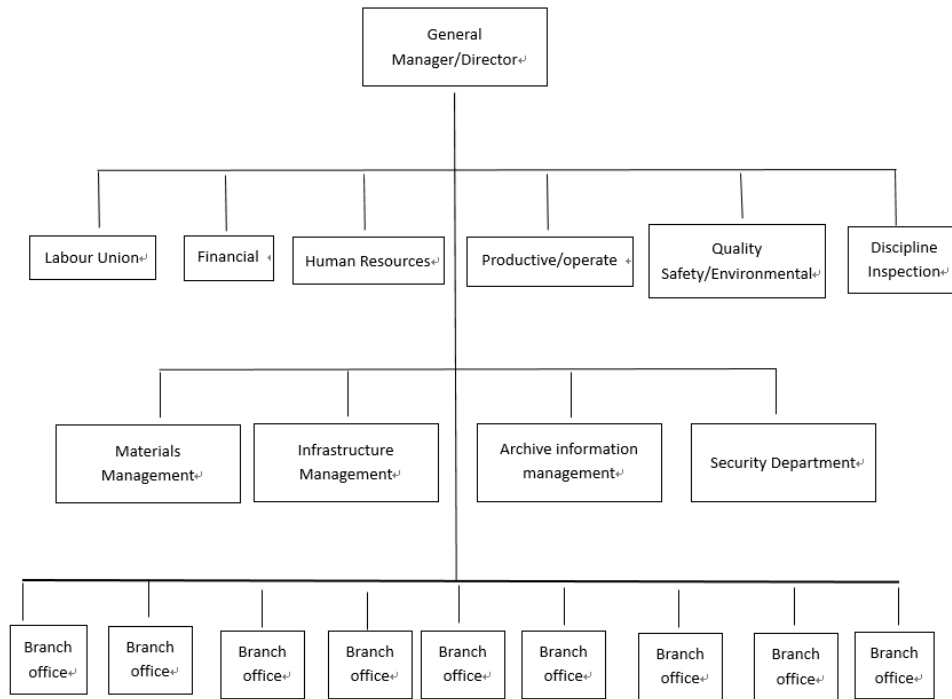
In recent years, the critical role of middle managers has received increasing attention from managers. Middle managers were defined as “any manager two levels below the CEO, and one level above line workers and professionals” (Huy, 2001: 73), that

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is, they are “both subordinates and superiors” (Guo et al., 2017: 676). Middle managers, especially in the political context of Chinese SOEs, acted as a bridge in the management system. Firstly, when facing conflicts between politics and the market, middle managers can minimise conflict through their knowledge of the local situation. Secondly, they have a stronger understanding of employee’s emotions than the top managers. Their local social networks help them to more efficiently transmit the policies of top managers to the actual tasks of employees (Guo et al., 2017).

Prior to the flattened organisational structure, most branch companies in PetroChina Xinjiang had at least four levels. Generally, top managers were located in the first level. The second level of departments was called “Jiguan”, which means directly under the authority of top managers. The third level departments acted as the middle managers’ role in bridging the top manager and line managers/employees. The fourth level departments did actual operations on the relative services and productions. There is an example of a traditional structure shown in Figure 2.3. Except for the first level, although the leader of each department was a middle manager, the middle managers had little actual power. The top-level had absolute power over the second to fourth level departments. However, if fourth-level departments intended to report an issue to the top level, they had to first report to the third level, and that was passed on to the second level by the third, and so on. This situation caused low efficiency in the company and made middle managers lack motivation.

**Figure 2.3: An example of Traditional Structure of PetroChina Xinjiang:  
source from PetroChina Xinjiang Property Management Company**



The strategy of a flattened organisation aims to reduce the organisational structure to three levels. Specifically, top managers and branch offices are still in the first and last levels. The second and third levels are combined into the same level and have the same level of authority. This step was completed in most of the companies in PetroChina Xinjiang in 2019. The final target of this strategy is to decrease the direct power of top managers over branch offices, which increases the power of middle managers in the second level. During this period, the modern Human Resource Management system was also introduced in order to promote the overall capacities of middle managers. As a new strategy, these actions obviously need time before improving outcomes.

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## **6. Conclusion**

Overall, this chapter introduced the research background and context from the extensive to the specialised. First, it introduced the background of the Chinese SOEs reform and illustrated the progress of Chinese SOEs over four decades, from 1978 to the present time. Then, the CNPC was used as an example to discuss the outcomes and issues raised during the reform. Finally, the researcher selected PetroChina Xinjiang, which was the background survey in this research. The researcher discussed the outcomes of the reform in PetroChina Xinjiang and its ongoing strategies and drew out the research framework and research design in the following chapters based on the research context.

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## CHAPTER 3: LITERATURE REVIEW

### 1. Introduction

This chapter first introduces the theoretical underpinnings to support the research; they are the institutional theory and the resource-based view (RBV). This section explains the reasons for these theories being chosen and what limitations they have. It then states the perspective that integrated RBV into the institutional theory and describes the use of the Organisational Receptivity for Change (ORC) perspective, which combines the RBV and institutional theory. This section goes on to explain how ORC overcomes the limitations of the main two theories and the reasons why the ORC theory was chosen for this study.

The chapter then presents the development of the ORC theory. In this section, three existing ORC frameworks, which present the evolution of ORC, are discussed. They are: the eight-factor framework by Pettigrew et al. (1992); the five-factor framework by Butler (2003) and further developed by Butler and Allen (2008); and the four-factor ORC scale by Taha (2014). Additionally, the knowledge gap and issues in the ORC theory are also discussed, explaining how this research intends to address these issues.



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Finally, based on the theoretical underpinnings and literature review, the chapter proposes a conceptual model of the thesis to examine the relationship between ORC, corporate entrepreneurship and performance. This model assumes that ORC factors positively affect corporate entrepreneurship and corporate entrepreneurship can act as a mediator, impacting the relationship between ORC factors and performance.

## **2. Theoretical Underpinnings**

The reform of Chinese SOEs meant that a corporate governance structure was formed in companies controlled by the Chinese government (Lijun & Xinyuan, 2007). During this process corporations sought ways to promote performance through innovative strategies, restructuring and expending new business activities in the dynamically changing environment. However, these measures were implemented under the policies established by the Chinese government. In other words, although the autonomy of Chinese SOEs has been enhanced by reform, the central and local government still has the final authority and control of SOEs (Wang, 2016). Therefore, the direction of reform can be influenced by country-specific contextual factors.

North (2005) states that, based on an institutional perspective, institutional factors should be considered when determining the role of ownership in organisational governance. This is especially so in an emerging economy (like China), where

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institutional voids, such as weak law enforcement, labour shortages, a lack of independent financial intermediaries, and shallow capital markets exist, seriously hindering organisational operations and development, such as the constraint of organisational motivation (Hoskisson et al., 2000; Chen et al., 2014).

Xu et al. (2014) suggested that one way to resolve institutional voids was to get connected with the government, which strongly affects business operations because of government policies. Governments often intervene in organisational activities by their trying to regulate the economy and grant protection to certain business actors through anti-trust policies, national strategic planning, banking regulations and financing (Hoskisson et al., 2000). For example, Musacchio and Lazzarini (2014) state that many emerging market governments only allow SOEs to operate in key sectors, such as petroleum processing. SOEs enjoy privileges granted by the government and related agencies to overcome institutional voids, especially in emerging markets.

Scott (2002: 59) states that "institutional theory emphasizes the role played by regulative, normative, and cultural-cognitive processes in shaping social behaviour and social structure". The institutional theory provides a perspective to describe and evaluate change in Chinese SOEs; "Western models of organising are introduced via numerous mechanisms but must be adapted to fit the distinctive institutional characteristics of China" (Scott, 2002: 59).

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Therefore, this research used the institutional theory as the first theoretical underpinning to explain and describe the institutional factors in the Chinese SOEs' reform process. The next section explains why the institutional theory was selected and what the limitations of institutional theory are.

The concept of seeing a company as a collection of resources can be traced back to 1959 and the literature of Penrose (1959). The notion of a "resource-based view" was first stated by Wernerfelt (1984) who suggested analysing organisations from the respect of resources. From the resource-based view (RBV) perspective, distinctive resources can help organisations enhance competitive advantages and then create better performance than their competitors (Barney, 1991; 2001). Additionally, organisations can use accumulated resources to achieve sustainable competitive advantages in order to respond to challenges in the dynamic context (Peteraf, 1993; Barney, 1986). This research then used a resource-based view (RBV) as the second theoretical underpinning. In the next section, the researcher explains why RBV was selected and the limitations of RBV.

Finally, this research applied the perspective of combining RBV and institutional theory. The perspective of combining these two theories was first stated by Oliver (1997), who provided a comprehensive vision encompassing the institutional environment around resource decisions (Oliver, 1997). Taha (2014) applied the

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combination of RBV and institutional theory to explain Organisational Receptivity for Change (ORC). This perspective provided a new aspect to overcome the limitation of RBV and the institutional theory, respectively. This research supported the perspective that combines RBV and institutional theory to explain and evaluate the impact of ORC in the context of change in Chinese SOEs.

## **2.1. Institutional Theory**

The institutional theory represents a robust sociological perspective on organisational theory (Greenwood & Hinnings, 1996). It defines institutional sectors as those “characterised by the elaboration of rules and requirements to which individual organisations must conform if they are to receive support and legitimacy from the environment” (Meyer, 1992: 140). It differs from the economic and strategic frameworks where institutional theory emphasizes the extent to which organisational behaviour is “compliant, habitual, unreflective, and socially defined” (Oliver, 1997: 699). Specifically, it studies the forces within the institutional environment that guide and constrain legitimacy seeking behaviour in organisations (Judge et al., 2009).

The institutional theory focuses on the interaction between organisations and institutions, which emphasises how organisational behaviour is shaped by surrounding institutions (Scott, 1995). The theory includes three levels. The first level of analysis is at the global and social level, which explains why institutional power

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determines its context and further promotes and shapes the structure and actions at lower levels (Scott, 1995). The second level related to the governance structure, which is comprised of the organisations in the same industry field that affect their performance by each other (Judge et al., 2009). The third level is at the organisational level, which focuses on addressing issues of organisational structure, culture, change capacity, and how these factors impact the relationship between institutional context and organisations (Scott, 1995). The theory assumed that organisations have to operate change regularly in order to adapt to the change of environment and, in turn, impact other groups within the same context.

The notion of a "new" institutional theory, first stated by DiMaggio and Powell (1983), which emphasised the organisational field, offered an exploratory vision to understand and analyse how different pressures caused homogeneity within the organisations (DiMaggio & Powell, 1983). They stated that there are three isomorphic pressures that come through the institutional environment: "coercive, mimetic and normative" (DiMaggio & Powell, 1983: 147). These types of pressures provide insight into how organisations promote or inhibit change within organisations. They play a role in the stability of characteristics in organisational arrangements and affect change capabilities (Scott, 2001). In other words, various pressures determine the direction of change. This can be especially seen in the coercive pressure executed by the government, which can command the reshaping of the industry structure and behaviour. Mimetic pressures come from uncertainty, which explains

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why isomorphism is created when changes happen within organisations and it can also reflect the changes in other organisations in the industry. Normative pressures come from the professionals within the organisations which build isomorphism through professional or other forms of educational background (Powell & DiMaggio, 2008).

Moreover, Scott (2002) defines institutions as having functions of providing order and emphasising normative regulations and cultural identity in the work, without ruling out the possibility of change. "Institutions by definition connote stability but are subject to change processes, both incremental and discontinuous" (Scott, 2001: 48). Scott (2002). He concluded that when researchers discuss the transformation of Chinese enterprises from an institutional perspective, they should notice that: 1) the past shaped the present, where "new forms and practices build on and incorporate elements of the old"; 2) individuals are social actors, which "use commonly constructed interpretive frameworks and are guided by socially constructed normative codes"; 3) "new ideas diffuse readily, but their content is affected by their carriers and their acceptance is influenced by the characteristics of the adopting units"; 4) "new ideas are never simply adopted; they are always translated, interpreted, modified, adapted, and adjusted to fit local circumstances and participants' understanding" (Scott, 2002: 75-76).

Filatotchev et al. (2020) emphasised the differences in institutional theory when

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applied to research focusing on either Western or Eastern enterprises. The research on institutional perspective in the Western context focuses on “isomorphism”, “strategic agency”, “formal institutions” and “organizational efficiency”; while the Eastern context focuses more on “institutional voids”, “informal institutions”, and “organisational legitimacy” (Filatotchev et al., 2020: 3). Researchers found that in the Eastern enterprises more focus is put on institutional rules when considering products from quality companies. These institutional rules are not only based on formal institutions (like regulations, rules, and policies), but also based on informal institutions (like religion, culture, and traditional customs). Due to the Eastern context having a wide diversity of characteristics in both formal and informal institutions, it provides a foundation for forming and developing institutional theory in such a complex environment (Filatotchev et al., 2020).

This study used the institutional theory as the theoretical underpinning because the researcher argues that the reform of Chinese SOEs is influenced by institutional factors. From the aspect of the formal institutional factors, the reform process is affected by government policies. China's economic reform experienced four stages of change and there are different measures for each of the phases, which affect the progress of the SOEs' reform (Song, 2018). From the aspect of informal factors, the ideology of national responsibilities and national pride plays a significant role that affects the progress of the SOEs' reform (Ren et al., 2012). Chinese culture is considered to have stronger collectivism and nationalism compared to Western

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culture (Ren et al., 2012). Therefore, national pride could be enhanced due to the strong state ideology, which makes managers of SOEs have more national responsibilities and ambitions to seek change and development in order to contribute to the state economy.

The limitation of the institutional theory is that it ignores internal factors when analysing organisational change (Greenwood & Hinings, 1996). The institutional theory focuses on explaining that a corporation's inertia impacts the corporation's ability to adapt to a dynamic environment, but doesn't suggest how corporations can adapt to change (Oliver, 1997). Moreover, it cannot explain why, in the same changing context, some firms have the capacity to take actions to adapt to the environment, while some firms are not able to (Greenwood & Hinings, 1996).

Furthermore, the institutional theory provides an alternative approach to the macro institutions, suggesting that the reactions of stakeholders to strategies are institutional characteristics. Based on this perspective, the reactions of markets to organisational behaviours are the response of stakeholders to its legitimacy instead of based on rational, economic optimisation reactions (Bell et al., 2014). Therefore, the institutional theory overlooks the implications of efficiency-based factors and strategic behaviours (Berrone et al., 2007).



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## **2.2. Resource-based View (RBV)**

The resource-based view (RBV) is considered to be a strategic theory used for explaining why some organisations outperform their peers (Liu et al., 2009). It is seen as the analytical tool to analyse competitive heterogeneity between organisations and evaluate the internal advantages and disadvantages within organisations (Liu et al., 2009).

The modern RBV theory stated by Barney (1991) assumed that each organisation has a collection of critical capabilities and key resources which determines organisational strategy. When an organisation uses key capacities to form its competitive advantages, it will obtain a high level of return (Barney, 1991; Peteraf, 1993). Based on the modern RBV theory, further research on RBV focused on dynamic capabilities for explaining the capacities of organisations to respond and adapt to unpredictable changing environments (Teece et al., 1997). Winter (2003) states that analysing dynamic capabilities with RBV not only focuses on protecting resources and capacities for current competitive advantages, but also aims to create resources and capacities for future competitive advantages.

Filatotchev et al. (2020) emphasised the differences between RBV applied to research focusing on Western or Eastern enterprises. The research of RBV in a Western context focusing on “firm-specific advantages”, “access to markets for key resources” and “dynamic capabilities”, while focusing more on “innovative capacity

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and late entrant advantages” and “non-market competition (political connections)” in an Eastern context (Filatotchev et al., 2020:3). Researchers discuss how the business strategy of Eastern enterprises use their unique resources and knowledge advantages to provide new aspects for the RBV theory. Filatotchev et al. (2020) state that many Eastern enterprises rely on political connections to obtain their competitive advantages, which provide a new vision to research on RBV.

This study used RBV as the theoretical underpinning because the nature of RBV corresponds with the character of this case context. From the perspective of RBV, superior resources and/or capabilities help organisations obtain competitive advantages in the dynamic context. In the case context of this study, PetroChina Xinjiang companies were considered to be organisations that actively valued transformation. In the Annual Report of PetroChina 2018, Xinjiang Branch Companies were seen as the critical role in the future strategy of the whole corporation. Therefore, the reform of PetroChina Xinjiang obtained their competitive advantages by policy and financial support from the central office and local government (PetroChina Annual Report, 2018). However, PetroChina Xinjiang companies have natural resource advantages in the oil industry. With the progress of technological innovation, a huge number of new oilfields were explored and developed, which brought superior resource advantages for companies (PetroChina Annual Report, 2018). In this context, PetroChina Xinjiang companies combined their resources and capabilities to determine competitive advantages in the changing

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environment.

Despite the huge amount of literature on RBV, the theory has been criticised as being static (Barney, 2001; Priem & Butler, 2001). Researchers claim that RBV is unable to explain how “future valuable resources could be created and how the current stock of resources (that are valuable, rare, imitable and imperfectly substitutable) can be refreshed in changing environments” (Ambrosini & Bowman, 2009: 29). It failed to explain how some successful organisations demonstrate ‘timely responsiveness and rapid and flexible product innovation, along with management capability to effectively coordinate and redeploy internal and external competencies’ (Teece & Pisano, 1994: 537). In current rapidly changing environments, organisations must have the capacity to create new resources and to renew or alter their existing mix of resources in order to attain a sustainable competitive advantage (Teece et al., 1997). The RBV theory is weak in analysing the external dynamics of organisational change.

Another limitation of RBV is that it is considered to over-emphasise the effects of rational action and resources while ignoring the external context in which organisations are embedded (Ginsberg, 1994). RBV does not consider the effect of institutional factors (both formal and informal) on organisational change, which may cause an insufficient understanding of strategic behaviour based on the context (Oliver & Holzinger, 2008).

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### **2.3. Combining RBV with the Institutional Theory**

Despite research usually viewing the institutional theory and RBV as separate, recent studies (e.g., Takahashi & Sander, 2017; Nair & Bhattacharyya, 2019; Li, 2017) suggest combining RBV (Barney, 2011) and the institutional theory (Scott, 2013) to explain organisational change and management based on both the macro-level (social field) and micro-level (organisational or individual).

Takahashi and Sander (2017: 45) stated a perspective called “inverted binocular”, that is, “one lens makes distant objects seem nearer and the other lens makes near objects seem distant”. The perspective of the “inverted binocular” uses a metaphor to explain the combination of institutional theory and RBV. Specifically, the institutional theory is one of the support theories that explores organisational practices at a macro-level, while RBV is another support theory that explains organisational practices at a micro-level. The integrated institutional theory and RBV is considered a potential approach to understanding dynamic capabilities, change process, and knowledge flow based on the interface between macro and micro levels, as well as individual, organisational and social levels (Takahashi & Sander, 2017).

Change was a significant point when scholars discussed the combination of the institutional theory and RBV (Takahashi & Sander, 2017; McKague, 2011) because it signifies the change of resources (Mills, et al., 2002), while, due to limited resources, the possibility of acquiring resources may depend on the institutional environment

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(Danneels, 2011). The process of change demands a response to environmental pressure. Therefore, the change strategies require proactivity and flexibility to create new knowledge and achieve resource optimisation (Oliver, 1992).

The importance of dynamic capabilities on organisational resources and the institutional environment has been emphasised (Al-Aali & Teece, 2014). The institutional theory explains that the process of organisational practices could be institutionalised and deinstitutionalised, while dynamic capabilities analyses the patterns and routines (Eisenhardt & Martin, 2000). Thus, the institutional theory can provide a way that helps us understand and analyse change. It is usually used to explain how the change process occurred, such as in institutional entrepreneurship and institutional change (Garud et al., 2007; Tina Dacin et al., 2002).

Dynamic capabilities help enable organisations to constantly adjust their existing resources to opportunities or challenges perceived in the environment (Takahashi & Sander, 2017). Therefore, RBV and dynamic capabilities provide a lens (micro-level) to observe the organisational change from a more precise perspective. On the other hand, the institutional theory acts like another lens to build a bridge that helps us to understand the relationship between dynamic capabilities and the environment. This lens provides a point of view that observes the organisational change at a macro-level from environmental and structural aspects (Takahashi & Sander, 2017). RBV and the institutional theory combine to integrate, configure, and optimise capabilities

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and resources based on environmental changes, then achieve organisational change.

#### **2.4. Organisational Receptivity for Change (ORC)**

Since China's economic reform, Chinese SOEs have faced a continually changing environment which has forced them to change and take actions to respond and adapt to such changes. One challenge facing Chinese SOEs is that they have to balance the relationship between conforming to the governmental/institutional requirements and enhancing capacities for optimising unique resources/capabilities. For the enterprise itself, the major objective is enhancing performance and obtaining an advantage in the business market, but in the external environment, the development of Chinese SOEs is still being influenced by the institutional policies of the government (Wang, 2016). In order to achieve this balance, Chinese SOEs have to possess a flexible and adaptive internal mechanism to ensure a balance between both changing their internal structure and adapting to the external context, at the same time. That is the reason this research chose ORC to explain the reform of Chinese SOEs, which emphasises that organisations should have a flexible internal mechanism to adapt to unpredictable dynamic environments (Butler & Allen, 2008).

The ORC theory determines institutional factors that impact on the external context for the organisation, which can promote change (receptivity) or restrain change (non-

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receptivity) (Butler, 2003; Butler & Allen, 2008; Newton et al., 2003; Pettigrew et al., 1992; Taha, 2014). The ORC theory has similarities with other related analysis theories on organisational change, such as organisational change capacity (OCC) (Judge & Douglas, 2009), organisational flexibility (Palanisamy, 2003), and organisational adaptive capacity (Staber & Sydow, 2002). Compared to the ORC theory, these theories are mainly based on RBV, which focuses more on organisational resources and capacities, while ORC is mainly based on the institutional theory, which considers the wider institutional context. The initial ORC factors stated by Pettigrew et al. (1992) determined eight institutional contexts which have an impact on the pace and rate within firms. With the development of ORC, Butler (2003) and Taha (2014) not only identified that organisational resources/capacities are a critical element for change, but they also explained various external backgrounds (like cultural and institutional policies) that affect change implementation.

Oliver (1997) first stated the perspective that combines RBV and institutional theory to explain ORC theory. From Oliver's (1997) perspective, both institutional theory and RBV provide significant but different fields of organisational activities. The major difference is the rational and irrational perceptions, which relate to the assumption of managerial choices and actions as well as the vision of organisational outcomes. RBV presumes that managers apply economic rationality (rational) which is limited by uncertainty and restricted by bias and information. Institutional theory, however,

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supposes that managers offer normative rationality (irrational) choices which are limited by social judgements and restricted by habit as well as history (Oliver, 1997). Oliver's (1997) proposition inspired various empirical studies to explain the research phenomenon of these two theories. This research supported and developed this perception through undertaking a different level of analysis.

Taha (2014) supported Oliver's (1997) suggestion of combining RBV and institutional theory to explain ORC. Taha (2014) states that ORC factors are related to both organisational resources/capabilities and institutional contexts; in other words, "ORC conjoins both institutional and RBV theories and acts as a mediator between both theories" (Taha, 2014: 240).

From the perspective of ORC theory, the discussion on organisational change should not only pay attention to the resources and capabilities within organisations, but also focus on related institutional factors that impact the pace and rate of change (Taha, 2014). Specifically, organisations trend towards higher level receptivity for change when the industry trends towards heterogeneous. The higher level of receptivity for change helps organisations to be able to quickly adapt to the dynamic environment. In contrast, organisations trend towards lower receptivity for change when the industry trends towards homogeneous. This is because lower level receptivity can help organisations following the external environmental rules to ensure their legitimacy.



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The next sections provide the details of the development of ORC and describe the three types of framework used during its development.

### **3. ORC Development and Frameworks**

The research of Pettigrew and Whipp (1991) first proposed the concept of “receptivity” and provided the insight into “why” some organisations are more successful for strategic change than others operating under the same conditions, such as country, product market, and industry. In their study, they did a longitudinal analysis of four private industries to compare the characteristics of high and low performing sectors. Finally, they concluded that there are five interrelated elements in the process of change: environmental assessment, leading change, strategic management and change operation, humans treated as capital assets, and coherence management (Pettigrew & Whipp, 1991). In 1992, the theory of “organisational receptivity” was first proposed in the study by Pettigrew, Ferlie and McKee. Their study focused on the private sector to apply and explain the metaphor of “receptivity” and “non-receptive” contexts for change in the organisation. They concluded that there are eight features which have an impact on the different degrees of receptivity (pace and rate of change): 1) “the quality and coherence of policy-analytic and process component”; 2) “availability of key people leading change”; 3) “environmental pressure-intensity,

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scale and orchestration”; 4) “a supportive organizational culture”; 5) “effective managerial/clinical relations”; 6) “co-operative interorganisational networks”; 7) “simplicity and clarity of goals and priorities”; 8) “the fit between the change agenda and the locale”.

The perspective and explanation of Pettigrew can be viewed as the foundation for further studies in the field of ORC. In 2003, Newton and other scholars employed Pettigrew’s ORC framework to investigate the change extent of the general medical system through the study of Personal Medical Services (PMS) from 1998 to 2001. ORC construction was demonstrated that it cannot only provide a “diagnostic checklist”, but also “offers scope for interpretation and explanatory analysis” (Newton et al., 2003: 151).

The next major step in the progress of ORC development came with the research by Butler (2003) and Butler and Allen (2008). These qualitative interview-based studies were intended to further develop the ORC model as a management theory and attempt to build categories for change. In the study, Butler and Allen (2008) explained the success of two outsourcing strategies by English local governments, using Pettigrew’s original ORC construction. Butler and Allen (2008) then reduced the original eight factors of receptivity to change to five correlated factors, in order to make the ORC model more applicable to other industries. The five new factors of ORC are ideological vision, leading change, institutional politics, and implementation

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capacity (Butler & Allen, 2008). Taha made further contributions to the development of ORC by using the quantitative method. The measurement, based on Butler's ORC model and developed by Taha (2014) for the private hospitality sector, set up four dimensions of the ORC scale. The ORC framework of Butler's (2003) is the foundation of this research's contribution to knowledge. Taha's (2014) framework developed based on Butler's (2003) ORC framework, the knowledge contribution of this research based on both ORC framework by Butler (2003) and Taha (2014).

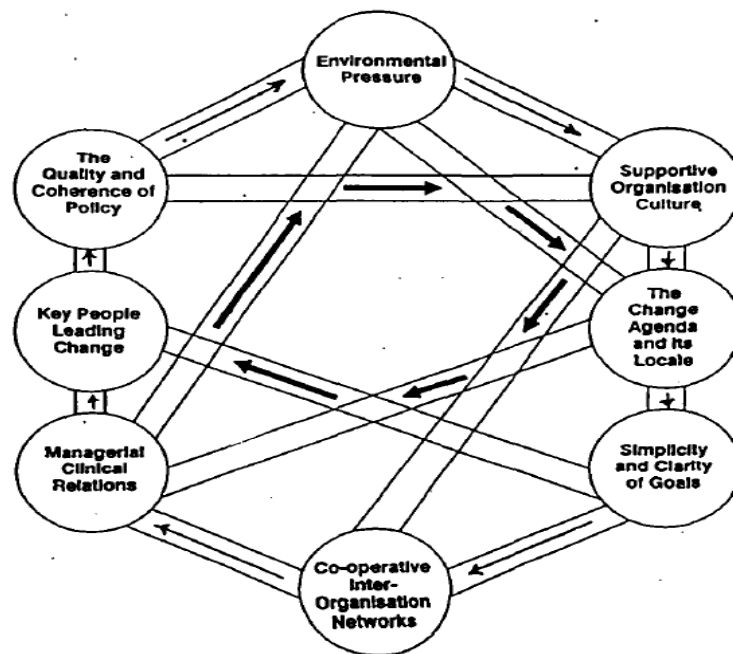
So far, there are three frameworks that play a significant role in the development of the ORC theory literature. The first is the pioneering framework by Pettigrew et al., (1992) which was based on the institutional theory. Second is the explanatory framework by Butler and Allen (2008), which enabled the theory to be applied to another research context. Butler (2003) consolidated the original eight receptivity factors into four factors and a fifth factor was identified by Butler and Allen in 2008. The latest is the measurement framework by Taha (2014), which provided a perspective to combine the institutional theory and RBV theory to support the ORC theory, conjoining organisational contexts and capabilities into one framework.

### **3.1. Eight-factor ORC framework by Pettigrew et al. (1992)**

The ground-breaking ORC framework by Pettigrew et al., (1992) involved receptivity factors. The eight factors of the framework were based on the institutional theory,

which explained the pace and rate of change in organisations. Through the “contextualist” approach, it could also help understand and acknowledge that the activation and motivation of resources depend on context in order to achieve desirable outcomes (Newton et al., 2003). Theoretically, the receptivity factors are dynamic and interrelated in nature, which are shown in Figure 3.1.

**Figure 3.1: Eight Factors of Receptive Contexts for Change (Pettigrew et al., 1992: 29)**



The first of the eight factors is the quality and coherency policy, which refers to the fact that a high-quality coherent policy can be used to build a construction around the highly uncertain strategic problems, and realise change implementation. The researchers emphasised that it is important to set up commitment to a wide vision and attract various stakeholders to participate in the change process (Pettigrew et al., 1992). This point was supported by Newton et al. (2003), they further explained

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that the tension will be increased if the relationship between vision and decision-making is incompatible. It may also lead to the resistance of employees to change. This assumption, based on the institutional theory, related to the impact of institutional pressure on managers' decisions (DiMaggio & Powell, 1983).

The second factor is "key people leading change", which points out that leadership is the critical element in change implementation. Pettigrew et al. (1992) emphasised that the leadership could be more effective as a small group rather than one person. The multifaceted, complementary and collective features of a group can promote the change implementation. The skills of group members can help the combination of opportunities and plans (Pettigrew et al., 1992). Newton et al. (2003) further complemented the factor related to the nature of leadership, by adding the need for continuity of leadership and the leadership capacity.

The third receptivity factor is "long-term environmental pressures", which represents the interaction effect between the organisations and the external environment. Pettigrew et al. (1992) found that the organisations which are receptive to change have a better understanding of the external pressure that push organisational change than no-receptive organisations. Moreover, Pettigrew et al., (1992) argued that some institutional norms, like trade unions, could be an obstacle which affects the managers' decisions in organisations. Additionally, it should be noticed that the discussion of the environment in this factor was relying on the institutional

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environment instead of the task environment in RBV theory (Oliver, 1997).

The fourth receptivity factor is “supportive organizational culture”, which is defined as “having a set of values and behaviours which contribute to the achievement of change goals” (Newton et al., 2003: 144). The effect of culture and organisational change plays a critical role in the institutional theory (Van de Ven & Halgrave, 2004). Cultures are deeply rooted in the organisational change because it can be the driver or inhibitor of the change implementation. Pettigrew et al. (1992) stated that real culture change needs tremendous energy, hence it is important for an organisation to acquire a culture that is focused on changing, and challenging beliefs about how to succeed. Moreover, Newton et al. (2003) complemented this factor by discussing the subcultures within the organisation, the intention of employees to change, and individual actions to present the supportive change of behaviour.

The fifth and sixth factors are “effective managerial clinical relations” and “co-operative inter-organisational networks”. Both factors focus on strong relationships within and outside, related to network and co-operation. Pettigrew et al., (1992) identified some features to explain this factor, such as a financial incentive system, shared ideologies, and clear communication. Greenwood and Hinnings (1996) state that it is also significant to concern about the relationship between the stakeholders within the organisation, because their conflicts or protection of interests may influence the change implementation and outcomes.

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The seventh factor is “simplicity and clarity of goals”, which represents the action plan created by wide vision and key priorities (Pettigrew et al., 1992). Manager’s ability play a significant role in a successful process of change implementation, especially in the internal changes, in order to overcome the conflicting regulations and restrictions (Newton et al., 2003; Oliver, 1997).

The eighth factor is the “fit between change agenda and its locale”, which is concerned with how institutional pressure can influence the direction and result of organisational change (Pettigrew et al., 1992; Newton et al., 2003). It also discussed how the locale affects the change (Pettigrew et al., 1992).

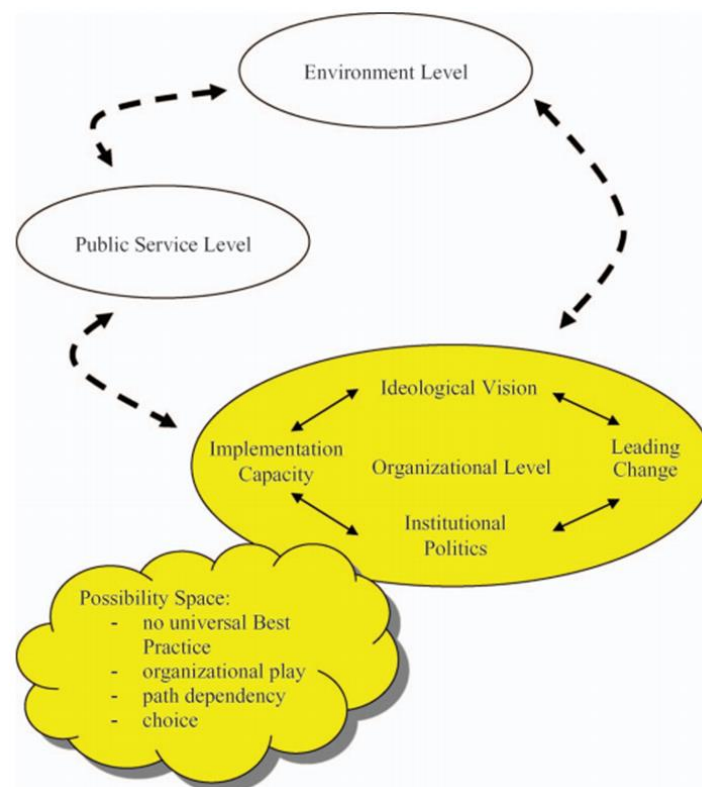
The next section will discuss how Butler (2003) applied Pettigrew et al.’s (1992) ORC framework to set up four factors for the ORC framework and how the fifth factor was developed in 2008 by Butler and Allen (2008).

### **3.2. Five-factor ORC Framework by Butler and Allen (2008)**

Butler (2003) used and developed Pettigrew et al.’s (1992) ORC framework to explain the success of outsourcing strategies implementation of two categories UK housing management institutions. In this research, the eight receptivity factors of Pettigrew et al.’s (1992) framework were consolidated into four factors. They are:

ideological vision, leading change, institutional politics and implementation capacity (Butler, 2003). Further research by Butler and Allen (2008) then led to the fifth factor being identified through the reanalysis of Butler's research data of 2003 (shown in Figure 3.2).

**Figure 3.2: Five Factors of ORC Framework (Butler & Allen, 2008: 426)**



The first receptivity factor is “ideological vision”, which combined the three factors of Pettigrew et al.’s (1992) ORC model: “the quality and coherence of policy”, “simplicity and clarity of goals”, and “supportive organisational culture”. The ideological vision is defined as “there being a strategic agenda but recognizes that the agenda may arise from the interests of a definite group within an organisation” (Butler, 2003: 52).



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It, therefore, combined ideology and vision, which are two broad analytical categories. Butler (2003) argued that vision can be shaped by a set of managerial ideologies and he divided ideological vision into three factors: “quality and coherence of policy”, “simplicity and clarity of goals”, and “supportive organisational culture”.

The second receptivity factor is “leading change”, which refers to driving the whole organisational change (Butler, 2003). This factor emphasised the vital role of leaders in the process of organisational change. The “leaders” can be either individuals or groups of any department or hierarchy in the organisation (Pettigrew et al., 1992). The high change receptivity organisations need the group which appoint change leaders in the overall organisation so that they can share positive practices among various departments through collaboration (Butler, 2003; Pettigrew et al., 1992). Therefore, it became very important that a key decision-maker be selected on the basis of their skills for leading change. Moreover, Butler and Allen (2008) argued that decision making can be implemented by top-down or other approaches. Overall, this factor is able to identify the “key people leading change” and evaluate their position and actions within the organisation, as well as their engagement of employees during the process of decision making (Butler and Allen, 2008).

The third receptivity factor is “institutional policy”, which refers to that which “affects formal and informal decision-making” (Butler, 2012: 46). This factor emphasised the role of decision making in organisations and the importance of the network of co-

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operative organisations. Pettigrew et al. (1992) discussed organisations create commitment and decreased resistance through formal and informal networks. These networks can work cooperatively in the various levels of organisations until the organisational culture has accepted the “new rules of the game” (Sabatier, 1991). This factor is based on the receptivity factor proposed by Pettigrew et al. (1992) of “co-operative inter-organisational network”. Butler (2003) developed this factor by involving internal politics between teams and admitting that the formal and informal relationships and constructions have an influence on organisational change (DiMaggio & Powell, 1983).

The fourth receptivity factor of Butler’s (2003) ORC framework is implementation capacity, which refers to “implement change in practice” (Butler, 2012: 46). This factor emphasises three key elements: first is how the role of local leaders and staff affect change implementation; second, how the action and approach of the local leaders motivate their capacities and resources to affect change; third, the engagement of staff in the change process. This factor is different to the notion of “capacity for action”, stated by Greenwood and Hinings (1996), which emphasised the capacity of the leadership in the change implementation, while “implementation capacity” focuses on the effect of all staff leading change. However, both notions acknowledge the mobilisation and usability of the required resources and skills in the change process by multiple change agents. Butler (2003: 52) stated that “implementation capacity refers to the mechanisms used by those leading change to

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shape and influence strategy or policy implementation and the behaviour of other stakeholders in the organisational network". The factor of "implementation capacity" fits the receptivity factor by Pettigrew et al. (1992) in "change agenda and its locale", which explained that institutional context and capacities impact organisations and motivated the resources to achieve change implementation.

The fifth receptivity factor, "possibility space", was proposed by Butler and Allen (2008) and was based on the re-analysed data in Butler's (2003) study. This factor assumes organisational changes are similar to the evolutionary perspective (Allen, 1997) which based on the complexity perspective and divided into four dimensions. The first dimension is "path dependency" which includes two elements: "path dependency" and "constituency" (Butler, 2003). Specifically, path dependency is defined as the mutual effect of new innovative practices and existing practices to create emergent capabilities and attributes, while constituency focuses on the success of innovative practice influenced by capabilities, individual practices, and performance (Butler, 2003). The second dimension is "no universal best practice", which discusses the condition that there is no single approach to promote organisations due to their different receptivity abilities. The third dimension is "choice", which emphasises on it is impossible to predict the approaches that will be applied by organisations because there being infinite possibilities for forms of interactions between practices (Butler, 2003; Taha, 2014). The fourth dimension is the "organisational place" which is related to the organisational requirement for reserve

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capacity (Butler, 2003). The fourth sub-dimension is the “organisational place”, which is related to the organisational requirement for reserve capacity (Butler, 2003). Butler and Allen (2008) stated that two points should be noted in terms of the organisational role: path dependency (learning from the past) and choice (predicting the future).

### **3.3. Four-factor ORC Framework by Taha (2014)**

The ORC framework by Taha (2014) is consolidated by Butler’s (2003) framework and Butler and Allen’s (2008) extended version. Taha (2014) supported Oliver’s (1997) recommendation that conjoined RBV and institutional theory in order to build a measurement scale to test how hospitalities stay ahead of competitors through receptivity factors (Taha, 2014). Taha’s (2014) research explained that organisations adapt and succeed in order to balance the organisational conformity and resource optimisation. The ORC framework by Taha (2014) includes four dimensions: ideological vision, leading change, institutional politics and change orientation. The front three dimensions remain the same as Butler’s (2003) ORC framework, the fourth-factor change orientation conjoined “implementation capacity” and “possibility space” from Butler and Allen (2008).

The first receptivity factor, “ideological vision”, “explains how managers can use an organisation’s vision to inspire employees to be more receptive to change” (Taha, 2014: 249). Taha (2014) states that organisations adapt to the external business

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environment by visions. Meanwhile, organisations are continually re-evaluating and developing their objects and visions which set the direction for the future. This factor is similar in concept to the “ideological vision” in Butler’s (2003) ORC framework, which explained how organisations respond to environmental threats and opportunities to make an influence on the needs and space for change. The different perspective of this factor is around the “supportive organisational culture”. Butler (2003) states the idea that vision is related to culture and the effect of vision is critical to the creation of good culture. However, Taha (2014) stated that culture is impacted by change instead of vision. A positive and proactive culture can inspire staff to adapt to change within or outside organisations.

The second receptivity factor is “leading change”, which helps “managers identify if the person leading the change is given the power and authority to implement the changes” (Taha, 2014: 250). This factor includes four sub-dimensions: “location of decision making”, “who implements change”, “change leader’s action” and “leading change continuity”. The factor of leading change is associated with the actions of decision-makers, which includes the change plan, creating opportunities and change interventions (Taha, 2014; Butler, 2003; Pettigrew et al., 1992). Generally, the change receptivity of staff members is affected by the involvement of employees in the change implementation (Butler, 2003; Newton et al., 2003; Pettigrew et al., 1992; Taha, 2014). Taha (2014) especially stressed the important function of department leaders in the change implementation. The leader’s capabilities, power, knowledge,

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and authority can be significant tools for implementing change. This point fits with Butler's (2003) view of the leaders' function; that leaders' actions can impact the pace and rate of change implementation.

The third receptivity factor of Taha's (2014) ORC framework is "institutional politics", which informs "managers of the importance of creating the right network and relationships within the organisations" (Taha, 2014: 250) and how it impacts the pace and rate of change implementation. This factor includes two dimensions: first is the power of stakeholders, which is associated with the relationship between powers and networks (Butler, 2003). It impacts on the effect of various stakeholders which influence the pace and rate of the change process. Second is about "coalition", which refers to the support of political skills and networks. It focuses on the political skills of change leaders to acquire stakeholders' support. The factor of institutional politics stresses the role of stakeholders in the process of change implementation. Based on the views of Butler (2003) and Pettigrew et al. (1992), the institutional politics in Taha's (2014) ORC framework states that organisations applied various stakeholders' commitments and support to promote alliance and create change. Also, change leaders used formal and informal authorities to build solid relationships with employees to promote change implementation (Butler, 2003; Newton et al., 2003).

The fourth receptivity factor of Taha's (2014) ORC framework is "change orientation", referring to "the various change capabilities and the role of culture to help create high

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energy around change” (Taha, 2014: 250). This factor combined the factors of “implementation capacity” (Butler, 2003) and “possibility space” (Butler & Allen, 2008) in Butler’s ORC framework because both factors are associated with the mechanisms categories that promote the organisational capacities to implement change (Taha, 2014). This factor involves organisational culture as well as processes and routines which improve organisational transformation. Taha (2014) states that organisational mechanisms, such as public discussion, continuous support for staff, and clear communication, can make organisations create positive attitudes for change, which helps organisations adapt easier to environmental pressure. Allen (1997) stated that “possibility space” explains that organisational change is related to the theory of evolution for organisational structure. In Taha’s (2014) research, a low amount of government pressure led to low environmental pressure, which motivates organisations to apply best practices to their operations. DiMaggio and Powell (1983) explained that industrial standardization is caused by Isomorphic Pressures which includes those that are normative, mimetic, and coercive. Moreover, possibility space also regards the learning capacity and flexibility within the organisational culture (Taha, 2014). Those organisations are focus on promoting learning and training of employees have more flexibility for improving their HRM strategies, which in turn, makes employees have more motivation to learn and adapt a various type of jobs (Taha, 2014).

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### **3.4. ORC Issues and Knowledge Gap**

There are four main ORC issues to be addressed in this research. The first issue is whether the ORC is still “an emerging, undeveloped notion” (Butler, 2003: 48). Although the receptivity theory has existed for decades, it still hasn’t developed much beyond the original model (Butler, 2003). There are little research and literature on ORC since the research done by Butler and Allen (2008). Until 2014, Taha continued to develop the ORC model and started to test the ORC measurement scale in a quantitative study. Therefore, researchers need to pay more attention to the further development of ORC. The development of ORC needs more different types of study to extend its value on explaining the organisational change. This brings us to the second issue, that is, that there are limited quantitative studies in ORC research.

Before Taha (2014), most of the research of ORC was based on qualitative case studies. Also, most of the ORC studies focused on the public sectors (excepted Pittigrew & Whipp, 1991; Taha, 2014). The limited types of the sample may limit the observations and the development of the ORC (Pettigrew et al., 1992; Taha, 2014). Therefore, more quantitative studies in more different industries is an immense contribution to developing the ORC theory and will contribute to explanatory categories for change.

The third issue is that there are still signs of divergence in the literature and research about the factors of ORC. Pettigrew and Whipp (1991) first proposed that five factors



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affect how firms initiate and implement change. In the following research, Pettigrew and other scholars extended receptivity factors to eight in the framework (Pettigrew et al., 1992). Butler's (2003) ORC framework was based on the view of Pettigrew's (1992) and consolidated eight factors into four factors. Butler's final ORC framework developed a fifth receptivity factor receptivity factor, i.e. possibility space, which was not discovered by Pettigrew (Pettigrew et al., 1992). The research focused on receptivity was, up to this point, mainly undertaken in the public sectors (except Pettigrew & Whipp, 1991). Hence Taha (2014) argued that the early phase of receptivity factors was sector specific.

Nevertheless, the reason for the differences in the number of receptivity factors can be solved by methodological explanation. Also, the purpose of most of the studies was to explain how different factors play a role on impacting change implementation in different units or levels. For example, the study of Pittigrew and Whipp (1991) was on the top three levels: global economy, industrial sectors, and individual companies, while the study by Butler (2003) applied to the organisational level and so he reduced and combined the receptivity factors to improve the applicability of the factors for a wider context. The study of Taha (2014) continued to develop the receptivity factors, based on the Butler's model (Butler, 2003; Butler & Allen, 2008), in order to enhance the validity of receptivity factors for the measurement scale and make them applicable to the private sector (hospitalities).

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Fourthly, although with the progress of ORC, it could be tracked that ORC theory trends to associate with corporate entrepreneurship, there is no related research focuses on the between ORC and corporate entrepreneurship. Butler and Allen (2008) first stated the importance of creativity in the organisational change process. They emphasised that the “possibility space”, the fifth factor of the ORC, refers to the creativity captured in the organisational process. “Creativity here is defined as the adaptation of existing behaviours or the emergence of new behaviours” (Butler & Allen, 2008:431). They also emphasised that “organisational play weighs up two factors: learning from the past (path dependency) and anticipating the future (choice). Focusing on path dependency, innovative practices must interact with existing practices and this interaction will produce emergent attributes and capabilities” (Butler & Allen, 2008:432). Corporate entrepreneurship was viewed as entrepreneurial activities, which includes innovation, venturing, and strategic renewal within the existing organisations or groups (Zahra, 1996). Corporate entrepreneurship not only focuses on innovation activities with organisations but also emphasises on changing the existing business and structure to achieve innovation. Hence, it is necessary to explore the effect of corporate entrepreneurship in ORC development. The details of corporate entrepreneurship were provided in the following section.

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#### **4. Corporate Entrepreneurship**

The research done on corporate entrepreneurship, using empirical study and practices, was extensive (e.g. Zahra et al., 1999a; Zahra & Covin, 1995; Zahra, 1991; Morris & Jones, 1999; Bierwerth et al., 2015; Covinet al., 2006). Compared to the Western developed economies, the transformations in the context of Eastern emerging economies and institutions have significant differences (Luo et al., 2005). China is the largest transition economy in the world and has a characteristic of entrepreneurship that is attracting considerable attention. The entrepreneurship activities in China may be very different from those in Western economies, but until recently entrepreneurship and management literature has paid limited attention to these Chinese entrepreneurship activities (Yang & Li, 2008). More importantly, the existing literature on corporate entrepreneurship lacks a conceptual framework that integrates corporate entrepreneurship and receptivity factors within the transforming economies and the effects on performance. Therefore, the aim of this research is to build a conceptual model to fill this gap in the context of Chinese SOEs.

The definition of corporate entrepreneurship is “the process by which firms notice opportunities and act to creatively organize transactions between factors of production so as to create surplus value” (Jones & Butler, 1992: 735). “The process of corporate entrepreneurship activities can exist in established organisations at any level and within any area of the organisation” (Schindehutte et al., 2000: 18).

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Corporate entrepreneurship includes innovation, venturing activities and strategic renewal efforts (Guth & Ginsberg, 1990; Zahra, 1993a; Zahra, 1996; Simsek et al., 2007; Burgers & Jansen, 2008). Innovation refers to the introduction and development of new products and services, as well as production processes (Zahra, 1996). Venturing activities refer to the creativity of business within existing organisations which can operate in the existing or new markets (Zahra, 1993a). The top managers play a significant role in the venturing activities due to the size of investment and potential risk that the enterprise carries (Burgers & Jansen, 2008). Strategic renewal efforts refer to the redistribution of the organisational resources mode to change its strategies and competitive methods (Guth & Ginsberg, 1990). In other words, strategic renewal efforts are a top-down process for redefining the existing capacity bases of ventures. It can be created from the process of innovation and venturing activities (Floyd & Lane, 2000). Although the three dimensions of corporate entrepreneurship were often mentioned in the literature, there has been little research on the antecedents and outcomes for its three dimensions (Burgers & Jansen, 2008). This research focuses on the three aspects of corporate entrepreneurship separately.

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## 5. Organisational Change and Corporate Entrepreneurship

Seeking change is currently the biggest challenge for Chinese SOEs (Li & Alexander, 2021; Gao et al., 2018; Li & Belal, 2018). These changes could be forms of change in mission, strategies, operations, and even personal attitudes (Tayal et al., 2018). Scholars discussed how to explain individuals accepting change in the process of organisational transformation and development (Wood et al., 2019; Hannan & Freeman, 1984). They stated that the chances of failing could be reduced if organisational members have a strong commitment to change. It helps organisations/groups strengthen themselves and move towards progress (Pierce, 2003). The acceptance of change can be decisive for any group/organisation because the final goal is to survive and achieve success in a competitive environment, and the key factor is to maximise the innovative capabilities of organisational members (By, 2005). Therefore, the extent of change receptivity can impact the organisational members' innovative abilities and behaviours, which then affects change achievement. It has been stated that employees who commit to pursuing creative actions enable higher achievement values for organisations. These innovative behaviours create a win-win situation for organisations/groups and individuals, which significantly impacts business performance (West & Farr, 1989; Goldman et al., 1995).

Oreg, Bartunek, Lee and Do (2018) analysed how change recipients' different

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responses to change can influence change events. They state that change proactivity creates positive emotions, which elicits creativity (Oreg et al., 2018; Dutton et al., 2001). In the current literature, corporate entrepreneurship is used as a tool towards strategic change, making organisations shift to innovation, strategic renewal, and venturing (e.g., Chebbi et al., 2020; Yunis et al., 2018). Chebbi, Yahiaoui, Sellami, Papasolomou and Melanthiou (2020) discussed corporate entrepreneurship from the perspective of change management. They state that change acceptance can "help people understand 'why' change is necessary and unite them towards the adoption of common goals" (Chebbi et al., 2020: 216).

Moreover, change leaders play a critical role in the change process (Yukl, 1998). They define the demands of change and build up the change vision. Change leaders motivate and encourage followers to seek higher-order objectives which rise above personal benefits, then trigger the change and creativity (Tayal et al., 2018). It has been stated that a high participation of organisational members can improve creativity and adjust the change implementation and process, which then improves organisational performance (De Jong & Den Hartog, 2008).

Butler and Allen first emphasised the importance of creativity in their research on receptivity factors. They argued that the "possibility space" of receptivity factors "captures creativity in organizational processes", "Creativity here is defined as the adaptation of existing behaviours or the emergence of new behaviours" (Butler &

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Allen, 2008: 431). Butler (2010) further states that the extent of receptivity for change leaders enable to influence innovation across the whole organisation. Transformational leaders could be guided and supported in a high receptivity organisation, then introduce and promote new practices (Butler, 2010; Butler & Allen, 2008). In the dynamic changing environment, the ease with which creation activities depend on the extent of change receptivity (Butler, 2010; Butler & Allen, 2008).

## **6. Conceptual Framework**

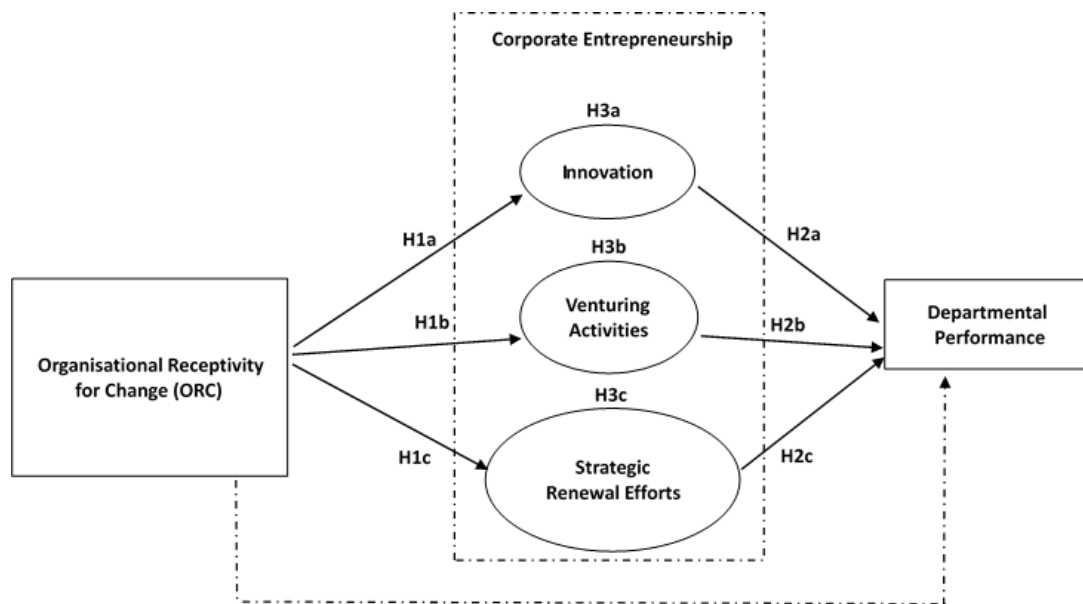
As mentioned earlier, although the related literature of ORC theory assumed that the trend of further research on ORC is to explore its association with creativity activities related to corporate entrepreneurship (Butler & Aleen, 2008), there is no existing research to investigate the impact of ORC on corporate entrepreneurship. Therefore, the first purpose of this research is to examine how ORC factors affect corporate entrepreneurship. Moreover, previous literature has demonstrated that the interactive nature of ORC factors can help organisations adapt to change and reduce risk in the dynamic context, and so benefit performance (Butler, 2003; Taha, 2014). However, there is still a discussion to be had exploring what factors can impact the relationship between ORC and performance. Butler and Allen (2008) gave a direction to future research of ORC suggesting that creative actions are the critical element in the development of ORC. Therefore, this research examines how corporate

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entrepreneurship dimensions are the mediators in the ORC's impact on departmental performance. Hence, this study builds a conceptual model, in the context of Chinese SOEs, for examining the relationship between ORC factors and corporate entrepreneurship and how ORC factors influence departmental performance mediated by corporate entrepreneurship.

The proposed conceptual model in this research (Figure 3.3) explores the effects of ORC on corporate entrepreneurship and performance. The research proposes to focus on the relationship between ORC factors (independent variable) and performance (dependent variable) through corporate entrepreneurship (mediator). This study argues that as the "possibility space" of the ORC factor mentioned the importance of creativity in change implementation (Butler & Allen, 2008), it is, therefore, necessary to examine the role ORC plays in corporate entrepreneurship. Moreover, corporate entrepreneurship as a mediator also affects the relationship between ORC factors and performance.





**Figure 3.3: Conceptual Model**

### 6.1. ORC Factors and Corporate Entrepreneurship

The researchers found that the more assets of an enterprise that are owned by the state, the fewer activities there were to engage in the corporate entrepreneurship (e.g. investment of research and development), and consequently leading to less gain of the market share (Yiu et al., 2007; Smallbone & Welter, 2001). This emphasis on corporate entrepreneurship in transition economies is critical as China seeks to revitalize existing state-owned companies. However, Yiu et al. (2014) state that, although both formal and informal systems that are designed to reward the strategy of entrepreneurship activities and to develop new cultures are significant, their effectiveness is hampered by the embedded state philosophy (Huang, 2008).

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Based on the related literature, corporate entrepreneurship has gained support within the literature as a tool for promoting organisational change and strategic renewal, which will help large companies transform from bureaucracy to innovation (Zampetakis & Moustakis, 2007; Shaw et al., 2005; Barringer & Bluedorn, 1999; Guth & Ginsberg, 1990). The evidence from previous studies suggested that corporate entrepreneurship refers to a multifaceted and interdisciplinary process (Busenitz et al., 2003; Kuratko et al., 2004; Sadler, 2000). Such research was not only focused on the private sector but also holds the potential for development in the field of the public sector, non-profit and social organisations (Borins, 2002; Caruana et al., 2002; Leadbeater, 1997; Morris & Jones, 1999; Thompson, 2002; Zerbinati & Souitaris, 2005). Meanwhile, policymakers and managers are required to use various approaches to promote change acceptance and implementation (Morris & Jones, 1999). At the same time, corporate entrepreneurship is enhancing the requirements to integrate the effective adoption of specific practices like "decentralization of authority, participation in decision-making, cooperation, avoidance of bureaucracy, encouragement of risk-taking and creativity" (Zampetakis & Moustakis, 2007: 414).

China, as "one of the fastest-growing emerging economies in the world", has helped "hundreds of millions of people out of poverty, and entrepreneurship had played an important role in this achievement" (Cumming et al., 2016: 505). However, as a transitional economy, the development and competitiveness of corporate entrepreneurship in the Chinese context needs to improve organisational

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transformation. The policymakers and managers of state-owned enterprises need to proceed with caution concerning consistency between the institutionalization of new organizational practices and the governance and control of the enterprises (Huang, 2008). Despite the fact that formal controls that rely on structuration to set norms for appropriate behaviour may be more effective in the short-term, for long-term effectiveness a supportive cultural change is needed with an emphasis on strategic entrepreneurship. The primary point is that managers should have a proactive willingness to implement and realize corporate entrepreneurship (Lumpkin & Dess, 1996). Therefore, despite the challenges, successes and experiences of corporate entrepreneurship in the context of Chinese SOE reform, it is worth researching these issues to acquire insights and inform both further reforms in China as well as help the economic progress of other emerging countries (Cumming et al., 2016). In light of the fact that corporate entrepreneurship is divided into three dimensions, this research proposes the first hypothesis, divided into three parts.

#### **6.1.1. ORC Factors and Innovation**

The receptivity for change is defined as “contexts that are used analytically, not just as a stimulus environment, but also as a nested arrangement of structures and processes in which the subjective interpretations of actors perceiving, learning and remembering, help shape the process” (Pettigrew et al., 2001: 699). An organisation will be better able to introduce and implement innovation within such a change

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receptivity context. However, Pettigrew et al. (1992) argued that the level of each factor or combination of effects on innovation, largely depends on the local context. Furthermore, these changes are reversible and may be interrupted by unexpected behaviours or events, which are considered as “emergence, possibility, precariousness and iteration” in the total change process (Pettigrew et al., 1992: 28). Newton (2003) further concluded that of the four features from Pettigrew’s ORC framework (applicability, dynamism, associations, and temporality), the first three factors are helpful to an organisation’s innovation. In Butler’s (2003) research of ORC, creative activities are encouraged in the change process. Mistakes are allowed in the new trials as that will help to make sure mistakes do not happen again (Butler & Allen, 2008). Therefore, this study proposed that ORC factors will be positively associated with innovation.

***Hypothesis 1a: ORC factors will be positively associated with innovation.***

### **6.1.2. ORC factors and Venturing Activities**

Venturing activities generally refer to stepping into an unknown field, borrowing massively, or assuming a heavy portion of assets (Lumpkin & Dess, 1996). Therefore, the preference towards risk is "a willingness to take large and risky resource commitment, and this involves how much one is willing to sustain one’s belief" (Shin, 2013: 44). Thus, the level of venturing activity in an organisation depends on the

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attitude towards change within an organisation. High receptivity for change means good proactiveness in the organisation, which will bring forethought to the risk activities and enhance the organisational commitment to the venturing activities. Therefore, this study proposed that ORC factors will be positively associated with venturing activities.

***Hypothesis 1b: ORC factors will be positively associated with venturing activities.***

#### **6.1.3. ORC factors and Strategic Renewal Efforts**

The success of strategic renewal relies on an organisation's ability to change its core system. This process creates an unknown future, which demands new ideas and new behaviours (Floyd & Lane, 2000). Many scholars state that an organisation needs to create a new working approach or new capacities to build a context which supports strategic renewal activities (Van de Ven & Poole, 1995; Danneels, 2002). Hence, strategic renewal can be considered as a particular case of organisational change. An organisation will be better off organising renewal activities in a context with high receptivity.

The way to implement strategic renewal activities in an organisation is always a difficult issue because the organisation needs to develop a new working mechanism

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whilst operating under the old working mechanism (Smith et al., 2010). Therefore, Smith et al. (2010) suggest an approach called “contextual ambidexterity” to analyse renewal activities, which emphasises new demands that coexist with old demands. The process of renewal activities should be developed within the organisation. The characteristics of ORC factors are such that they will provide a dynamic context to promote the transformation from the coexistence of old and new working models to a totally new mechanism.

Additionally, strategic renewal activities, such as restructuring the organisational vision or business concept, are major approaches that companies use to adapt to change environments (Teece et al., 1997). Organisations are enabled to achieve competitive advantages through adjusting their organisation structure so that it is a better match with the company’s strategies and the external environment.

***Hypothesis 1c: ORC factors will be positively associated with strategic renewal efforts.***

## **6.2. Corporate Entrepreneurship and Performance**

According to the resource-based view, corporate entrepreneurship is viewed as an approach that explores how providing effective use of corporate resources affects performance. The previous related studies have investigated this relationship

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between corporate entrepreneurship and performance (e.g. Zahra et al., 1999b; Goosen et al., 2002; Kuratko et al., 2005; Lowe & Marriott, 2006). Specifically, many researchers, such as Zahra et al. (1999b) and Goosen et al. (2002), have identified the relationship between entrepreneurial activity and organisational performance, with later work by Kuratko et al. (2005) as well as Lowe and Marriott (2006: 421), and they all found that organisations involved in this activity obtain both monetary and non-monetary rewards. Despite the fact that “success” is generally measured in financial terms (Kuratko et al., 2005; Goosen et al., 2002), corporate entrepreneurship has also been shown to have non-financial benefits, such as job satisfaction, the number of new ideas that are generated and personal performance (Wood et al., 2008). It has also promoted links with stakeholders, such as suppliers and customers (Dess & Lumpkin, 2005).

Moreover, it has been found that a strong positive association exists in the relationship between corporate entrepreneurship and performance, particularly in a dynamic environment (Zahra, 1993b; Tang et al., 2007). In a highly dynamic environment, with abundant opportunities, organisations with better corporate entrepreneurship perform much better than others because they have more capacity to pursue new market opportunities before their competitors do (Tang et al., 2007).

The fundamental transformation into China's new economic pattern started to take place in the late 1970s (Tang et al., 2007). China is currently viewed as a highly

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dynamic environment and SOEs play a significant role in this rapidly changing situation. The reform of Chinese SOEs extended the scope and scale of the economy and promoted various modes of business transactions in the SOEs' operations. Hence, firms, especially SOEs, have to seek new opportunities under an environment of unprecedented change (Covin et al., 2006). Corporate entrepreneurship assists organisations facing and addressing these uncertainties through enhancing the proactiveness of firms and promoting their risk-taking capacities, as well as increasing their innovation of products, services, and production processes. Therefore, three hypotheses are proposed as shown below.

#### **6.2.1. Innovation and Performance**

Innovation can be seen as an adaption mechanism which enhances the performance of existing businesses through creating new products and/or services (Zahra, 1996). Innovation improves performance by increasing efficiency and quality and decreasing product costs (Bierwerth et al., 2015). Additionally, innovation promotes performance through a good reputation which divides them from their competitors (Bierwerth et al., 2015). However, innovation has a potential drawback in addition to these positive aspects. Some scholars state that, due to market uncertainty, unfair competition or commercialisation may cause failure caused by innovation (Bierwerth et al., 2015; Rothaermel, 2000). Moreover, innovation implementation needs massive resource or capital investment, which increases the risks and costs (Zahra,



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1996). In this case, the organisation may face capital shock if the innovation investment fails. Therefore, this research proposed that:

***Hypothesis 2a: Innovation will be positively associated with performance.***

### **6.2.2. Venturing Activities and Performance**

Venturing activities of enterprises promote their performance by enlarging or dispersing the current business structure: “Extensions of existing business structures can be achieved by creating new venture units in product markets related to the parent firm’s main product market” (Bierwerth et al., 2015: 259). The new venturing units then diversify the product markets of the enterprises. New technologies help companies enhance their capacities and competitive advantages, which promote their performance (Simsek & Heavy, 2011). However, venturing activities are generally related to high-risk investments, which stress the resource base of the whole company. The corporation may even experience massive losses when the expenses exceed the profit attained by the venturing activities (Rothaermel 2001). Therefore, this research proposed that:

***Hypothesis 2b: Venturing activities will be positively associated with performance.***

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### **6.2.3. Strategic Renewal Efforts and Performance**

Strategic renewal makes companies more sensitive to external circumstances and strengthens organisational capacities when they're facing external threats and opportunities (Zahra, 1993b). Companies can change their business structure by strategic renewal to adapt them to the external environment change. Moreover, strategic renewal efforts enhance organisations' business capacities and creativity in order to add value for shareholders, thus promoting the whole performance of companies (Zahra, 1996). However, strategic renewal may cause confusion to the employees (Bierwerth et al., 2015). For example, the disagreement of employees over a new strategy can decrease their motivation, thus negatively affecting their performance (Bierwerth et al., 2015). Additionally, customers who are price-sensitive may also lose out due to the transformation from the low-cost mechanism to a differentiation strategy (Parnell, 1994). Thus, this research proposed that:

***Hypothesis 2c: Strategic renewal efforts will be positively associated with performance.***

### **6.3. Mediation Effect of Corporate Entrepreneurship on the ORC-performance Relationship**

Receptivity factors are called "higher-order capabilities" by Butler and Allen (2008), and they can help organisations to coordinate and integrate their capacities and

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resources to enhance change. Pettigrew (1992) argued that it is necessary to investigate the relationship between change capacities and context, and performance in future research. Butler (2003) claimed that the ORC theory explains how organisations adapt to the needs of external contexts so as to expedite changes in order to promote organisational performance. This has been demonstrated in prior empirical research, however, exactly how ORC factors enhance performance remains poorly understood. After Butler and Allen discovered corporate creativity in the ORC, it was necessary to consider how the relationship between corporate entrepreneurship and ORC affects performance.

The concept of corporate entrepreneurship focuses on seeking opportunities through new products, business ventures, and/or the strategic renewal of organisations (Schmelter et al., 2010; Stevenson & Jarillo, 1990; Zahra, 1996). Corporate entrepreneurship emphasises an organisation's need to explore new knowledge whilst using existing knowledge as much as possible (McGrath, 2000). In the on-going transformational firm, this depends largely on the extent of change receptivity within the firm or team. Shin (2013) examined the process of organisational change in entrepreneurship and emphasised that the "receptivity or resistance to change" (Oreg & Sverdlik, 2011) is considered to be a factor which has an effect on whether the corporate entrepreneurship is successful or not during the organisational change process. Moreover, in studies of SMEs, Gray (2002) examined the propensity of changes and actual growth performance, and whether entrepreneurship is a

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necessary element in the innovation and change of SMEs. This study considered the influence of three dimensions of corporate entrepreneurship in a new context in order to examine its impact on the relationship between change receptivity and performance in Chinese SOEs.

### **6.3.1. ORC Factors, Innovation and Performance**

The related literature supported the view that “innovation” is still at the core of the Chinese SOE reform (Naughton, 2017; Li et al., 2007; Lu & Lazonick, 2001). It has now been over almost four decades that Chinese SOEs are transforming from plan-orientated to market-oriented enterprises (Li et al., 2007). The restructuring of Chinese SOEs has become the critical element for successful economic transformation. So far, Chinese SOEs are still the main part of the Chinese economy, which proves their importance and the need to pay more attention to them (Li et al., 2007). However, due to most Chinese SOEs long-term dependency on support by the government, this has caused issues of inefficiency and a lack of competitive advantage and market experience (Li et al., 2007). Therefore, innovation is viewed as one of the most effective approaches to promoting the development of SOEs so as to improve and keep competitive advantage through updating practices and facilities (Li et al., 2007; Lu & Lazonick, 2001).

Innovation implementation is complex in the context of Chinese SOEs. As mentioned

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in the research context chapter (chapter 2), the government has almost shifted all decision-making authority to companies due to the economic reform, but the authority of appointing and dismissing is still in the hands of the government (Li et al., 2007). Therefore, the managers of SOEs have found that they are still part of the bureaucratic system, but nevertheless, increasingly responsive to an emerging market mechanism. Hence, they have to focus more on the manager's role related to the marketplace. The evaluation of SOE managers not only includes capabilities and performance but also involves many political elements (Li et al., 2007), thus a conflict exists between government and innovation. This situation requires more managers in Chinese SOEs to have more receptivity for change and to have a stronger belief that innovation can achieve outcomes.

Therefore, we need to explore and discuss if innovation mediates the receptivity factors' impact on performance and whether this is valuable.

***Hypothesis 3a: Innovation will mediate the relationship between ORC factors and performance.***

### **6.3.2. ORC Factors, Venturing Activities and Performance**

The precondition of the venturing activities includes organisational factors and contextual factors. Organisational factors refer to the core resources of organisations

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(Chiu, 2012) and contextual factors relate to the institutional mechanism (He et al., 2019). China's economic transition created a dynamic environment for corporate entrepreneurship, which caused venturing activities in China to face more challenges and opportunities (He et al., 2016). Researchers have demonstrated that compared to Western countries, entrepreneurship activities in China are more dramatically impacted by the institutional context (Lu & Tao, 2010). Before 1978, the institution of public ownership restricted the development of China's corporate entrepreneurship. In the early stages of economic reform, people still had ideological biases against privatisation due to the long-term planned economy. Until 1988 (10 years after the economic reform), the government hadn't realised they needed to develop Chinese SOEs' corporation and marketisation, thus corporate entrepreneurship was developed in this institutional context (Lu & Tao, 2010). Therefore, China's organisations have had to adjust their current structures to adapt to the institutional change while these changes relaxed the restrictions of corporate entrepreneurship and promoted the development of venturing activities (He et al., 2019).

So far, most of the research on China's venturing activities are still focused on private enterprises, (e.g. Tsang, 1994) or small and joint ventures (e.g. Luo, 1997), which leads to a lack of understanding of venturing activities in other types of enterprises. There are few studies related to the venturing activities in Chinese SOEs, thus, the role of venturing activities impacting the relationship between change receptivity and performance should be considered, which can help us better understand how the

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extent of Chinese SOEs' venturing activities impact on performance in the process of economic transition. Thus:

***Hypothesis 3b: Venturing activities will mediate the relationship between ORC factors and performance.***

### **6.3.3. ORC Factors, Strategic Renewal Efforts and Performance**

Both ORC factors and strategic renewal efforts have demonstrated that they improve performance (Taha, 2014; Zahra, 1996). However, their collective impact on performance remains unexplored. From the perspective of the resource-based view (RBV), receptivity for change and corporate entrepreneurship activities are seen as organisational intangible resources (Pettigrew et al., 1992; Butler, 2003; Barney, 1991). To some extent, these resources are irreplaceable, rare, and valuable, which can be the basis of an organisation obtaining sustainable competitive advantages and achieving a successful performance (Shu et al., 2019). To be specific, receptivity for change provides the context for strategy renewal, and the receptivity factors can enhance performance through the activities and processes of strategic renewal efforts. Therefore, it is argued that strategic renewal efforts mediate the relationship between receptivity factors and performance.

***Hypothesis 3c: Strategic renewal efforts will mediate the relationship between***

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***ORC factors and performance.***

## **7. Conclusion**

To summarise, this chapter first provided the theoretical underpinnings related to this research. It also discussed the development of the ORC theory over time to adapt it to a wider context and research methods. The detailed literature review and theoretical underpinnings support the proposition of the conceptual framework and form the basis for the proposed hypotheses. The next chapter will discuss the research design of this study.



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## **CHAPTER 4: RESEARCH DESIGN**

### **1. Introduction**

This chapter intends to introduce the philosophical foundations and methodology design of the research. Specifically, this chapter presents the research design in three parts. The first chapter explains the philosophical foundations of the research related to the research paradigms and approaches. The second part introduces the sample and participants of the research, then provides the details of the pilot study prior to the main data collection. The final part intends to address the availability of the measurement scale of model factors and hypotheses testing.

### **2. The Philosophical Foundations of Social Science**

The controversy over philosophy and nature in social science research revolves around two main paradigms, interpretivist and positivist. The research is necessary for understanding the ontological and epistemological perspectives to determine the paradigm of their research (Guba & Lincoln, 1994).

Positivism believes reality combines deductive logic with accurate empirical research

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or observations of personal behaviour through an organised method in order to explore and determine a series of methods of probability and reasons. This kind of approach can be used to predict human activities in general patterns (Neuman, 2003). On the other hand, interpretivism perceives that the world is a social system which is experienced, interpreted and constructed by people in their interactions (Guba & Lincoln, 1994). It sees reality as multiple and subjective as seen by participants in research (Creswell, 1994).

When it comes to the research methods, both quantitative and qualitative approaches play a critical role in the research field. Nevertheless, the differences related to ontology and epistemology, as well as methodology, caused a chasm (Onwuegbuzie & Leech, 2005) between quantitative and qualitative research paradigms and researchers' ideologies (Creswell et al., 2007). It is necessary to define the paradigm before considering the quantitative and qualitative paradigm differences of the research. As Lincoln and Guba (1985: 15) mentioned before, "the paradigm is a systematic set of beliefs, together with their accompanying methods". Therefore, the paradigm can be understood as a phenomenon based on a series of beliefs or assumptions. Moreover, Lincoln and Guba (1985) state that the paradigm also involves approaches governing the value system or beliefs system. In other words, the paradigm is a method or a view of explaining the phenomenon through prior understanding.

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The quantitative study was based on objectivist epistemology (Tuli, 2010) which aims to develop explanatory universal laws in the context of social behaviours. It stressed, "The measurement and analysis of causal relationships between isolated variables within a framework which is value-free, logical, reductionistic, and deterministic, based on a priori theories" (Feagin et al., 1991: 12). Generally, the procedure of quantitative research includes proposing the hypotheses, examining the data, and getting the conclusion, which is presented in the form of probabilistic statements (Martin & Bridgmon, 2012).

In brief, this thesis majorly adopts a quantitative approach, based on the objectivist epistemology, to develop the conceptual model which depends on existing theories. Also, this study used some key principles of case study to explain and justify the research context. The research intends to draw a conclusion by hypotheses tested in a specific context.

### **3. Philosophy of Organisational Change and Methodological Justification**

The research of organisational change plays a critical role in organisational studies. The organisational change phenomenon has been researched by various paradigms which involve two main approaches: the positivist approach and interpretivist approach. The positivist approach proposes to test the metaphors of change and the

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veracity of theories (Judge & Elenkov, 2005; Judge et al., 2006; Judge et al., 2009), while the interpretivist method seeks to explain the process and significance of the change. (Pettigrew et al., 1992; Butler, 2003; Butler & Allen, 2008).

The ontological differences are based on the organisational research assumption. The interpretivist sees organisations as a chronological style which includes a set of change events caused by a historical narrative or a story (Abbott, 1998). The researcher in the interpretivist approach is able to have a deep understanding of the context of change; the historical perspective and the power and political issues involved in the change process (Pettigrew, 1992). It also allows researchers to seek answers to the questions of change related to the “how” and “why” (Pettigrew, 1992), as well as to the dynamics of change (Chakravarthy & Doz, 1992). The positivist, on the other hand, sees organisation as a thing or a noun and divides the organisations into different variables (Jones, 2002). The positivist approach allows the researcher to explain and demonstrate theories in using the deterministic causations among the organisational constructs in order to test the change process (i.e. structural mode, the complexity of change, or the rate of change, etc) (Van de Ven & Poole, 2005). The scholars conclude that the strength of this method can provide a comprehensive diagram of the mechanisms that drive the process of change, which can help researchers understand the phenomenon at an aggregate level (Van de Ven & Poole, 2005).

Moreover, a typology of organisational change developed by Van de Ven and Poole (2005), which includes four methods, depends on the key ontological views (processes or things) and epistemologies (method of process) in the organisational research. The change in the research of organisational change was defined as 1) “an observed difference over time in an organisational entity on selected dimensions”, and 2) “a narrative describing a sequence of events on how development and change unfold” (Van de Ven & Poole, 2005:1387).

**Table 4.1: Organisational Change Typology (Van de Ven & Poole, 2005: 1387)**

		Ontology An organization is represented as being:	
		A noun, a social actor, a real entity ('thing')	A verb, a process of organizing, emergent flux
<b>Epistemology</b> (Method for studying change)	Variance method	<b>Approach I</b> Variance studies of change in organizational entities by causal analysis of independent variables that explain change in entity (dependent variable)?	<b>Approach IV</b> Variance studies of organizing by dynamic modeling of agent-based models or chaotic complex adaptive systems
	Process narratives	<b>Approach II</b> Process studies of change in organizational entities narrating sequence of events, stages or cycles of change in the development of an entity	<b>Approach III</b> Process studies of organizing by narrating emergent actions and activities by which collective endeavors unfold

Based on the organisational change study approaches explained in table 4.1, this study employed “Approach I” to research the organisational change. Because from the point of time, this study is a cross-sectional study rather than longitudinal, so neither “approach II” nor “approach III” suitable for this study. Secondly, this study investigated in the Chinese SOE (an entity) and tested the research questions in this research concerning the relationships in the variables and factors in the changing

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context with an organisation, that is, the relationship between ORC factors, corporate entrepreneurship, and performance. This approach corresponded the first type mentioned: "Epistemology by causal analysis of independent variables that explain change in entity (dependent variable)" (Van de Ven & Poole, 2005: 1387).

#### **4. Case Study Principle**

From the methodology perspective, this study uses the quantitative method. However, it should be noted that this study applied some of the key principles and considerations when designing and implementing the quantitative method, although the study did not actually carry out a full case study design. Therefore, this thesis does not present a case study but rather applies some key principles to further enhance and justify the research context of the study. So this thesis only explained the definition of a case study and provide a discussion of the case study principle.

Scholars defined a case study as "an in-depth study of a single phenomenon whose boundaries and content can be made conceptually and empirically clear" (Feagin et al., 1992: 20). This definition of the case study has two key elements: 1) the clear content of the phenomenon; 2) that the phenomenon has boundaries that can be examined.

Once the case study has been defined, the next question is to consider the type of cases. Cunningham (1997) summarised three perspectives of case study approaches (shown in Table 4.2). The first is "intensive cases", which are used for developing a very intensive understanding of an organisation or a group. They refer to a research strategy to analyse a variety of evidence based "within" the case. The second is "comparative cases" "where it can be assumed that a variety of cases provide a demonstration of a theory or set of concepts using scientific conventions" (Cunningham, 1997: 403). The third is "action research" which can be viewed as a term for describing a set of cases. These cases put their emphasis on learning and research through observing and intervening in the change process. "It is a process of learning and change where researchers and clients develop a long-term interest in understanding and resolving a problem and issue" (Cunningham, 1997: 403).

	Type of case study		
	Intensive case	Comparative cases	Action research
Purpose	To develop theory from intensive exploration	To develop concepts based on case comparisons	To develop concepts which help facilitate the process of change
Assumption	Creativity through comparison with existing theories	Comparison of cases leads to more useful theory	Theory emerges in the process of changing
Situation	Usually evolves out of a researcher's intensive experience with culture or organisation	Usually concepts are developed from one case compared with another case	Developing theory to assist practice and future social science
Types	Narratives, tabulation, explanatory, interpretative	Case comparisons, case survey, interpretative comparisons	Diagnostic Experimental

**Table 4.2: Type of Case Study (Cunningham, 1997: 403)**

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The principle of different types of case studies can be focused on explanation and discovery to state and test general relationships between properties (Homans, 1967). For some variables of organisations or management, the appropriate principles are those which focus on problem-solving or decision-making instead of generalisation or interpretation (Cunningham, 1997; Argyris et al., 1985).

To be specific, scholars state that people in organisations have limited perceptions because much of what they think valuable depends on the circumstance they are setting (Shrivastava & Mitroff, 1984; Cunningham, 1997). This behaviour is viewed to develop valid measures for the problems of organisation based on the situation, which was explained as "developing research processes and resolutions that represent the culture and are ultimately verified by the perspectives in that culture" (Cunningham, 1997: 417). Some scholars state that many questionnaires or studies resulted in poor outcomes due to the researchers having insufficient understanding or because the survey they did is out of context with the organisational demand (Cunningham, 1997; Corey, 1953). It may cause premature judgement for developing a standard by a pure form (Maries, 1958). Therefore, scholars recommend researchers should act as facilitators or coordinators when they research in a group or team to "issue definition, hypotheses consideration, transferring the hypotheses into action and explaining the accumulated evidence" (Cunningham, 1997: 417-418).

Based on this type of case study, this thesis is an empirical research based on the



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scientific measurements in an intensive case study context. According to the discovery principles of the intensive case study, the researcher did a great deal of preliminary work to investigate the different departments of the organisations selected in order to avoid the issues mentioned above. First, the researcher considered the departmental variety. In order to avoid one-sidedness in the questionnaire answers, the participating departments in the different types of organisations that were experiencing different stages of change, were selected.

Moreover, the researcher arranged several meetings to gather representatives together in order to describe the reform situation in their departments and discuss their opinions in answer to the survey questions. The researcher modified the questionnaires and translation repeatedly based on the feedback of the representatives.

## **5. Research Sample**

This research chose six branch companies of North-western Oilfield, which are the primary business in the PetroChina Xinjiang Company. To be specific, there are oil exploration companies are involved in oil operation in the different oilfields, they are Shixi Oilfield Company, Fengcheng Oilfield Copany, Zhundong Oilfield Company, and Luliang Oilfield Company. The other two are service companies located in the

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city centre, one is the Engineering Technology Company and another is the Property Management Company.

The structure and management system of each company is similar (Table 4.3) with three top managers: general manager, vice-general manager and party secretary (for political management). Each company has 14 to 19 departments, which includes different business and branch offices. Also, each department has three to five middle managers: one manager, one to two assistant managers and one to two party secretaries. The number of line managers and employees depends on the scale of each company's operation.

**Table 4.3: Case Branch Companies Details**

Company	Property Management	Shixi/ Fengcheng / Zhundong/ Luliang Oilfield				Engineering Technology
Departments	1. Manager & Labour union	1. Manager & Labour Union				1. Manager & Labour Union
	2. Financial	2. Financial				2. Financial
	3. Human Resources	3. Human Resources				3. Scientific Research
	4. Production & Operation	4. Production & Operation				4. Planed Operation
	5. Quality Safety (QS)	5. Quality Safety (QS)				5. Human Resources
	6. Discipline Inspection/ Organisational Culture	6. Discipline Inspection/ Organisational Culture				6. Quality Safety Operation (QS)
	7. Materials Management	7. Materials Management				7. Discipline Inspection/ Organisational Culture
	8. Infrastructure Management	8. Information Management				8. Engineering Project Research Institute
	9. Archive information management	9. Production & Technology				9. Technical Support Institute
	10. Security Department	10. Reservoir Management				10. Security and Environmental Protection Institute
	11. Branch Office 1	11. Technical Supervision				11. Drilling Engineering Research Institute
	12. Branch Office 2	12. Oilfield Research Institute				12. Oil and Gas Technology Research Institute
	13. Branch Office 3	13. Integrated Service				13. Surface Engineering Research Institute
	14. Branch Office 4	14. Planed Operation				14. Reservoir Reformation Research Institute
	15. Branch Office 5	15. Oil Production Station 1				
	16. Branch Office 6	16. Oil Production Station 2				
	17. Branch Office 7	17. Oil Production Station 3				
	18. Branch Office 8	18. Oil Production Station 4				
	19. Branch Office 9	19. Oil Production Station 5				
Number of staff	600	2450	2604	2200	566	520
Number of top managers	3	3	3	3	3	3
Number of middle managers	63	57	60	62	57	42
Number of line managers	250	600	616	560	150	148

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## **6. Research Participants**

The major participants of this research are middle managers based at the department level. The research selected the major manager and assistant managers in different departments from the six companies. Although the party secretaries are also at the middle manager level, they are mainly focused on political management and not very related to the reform management process. To ensure that the quality of the survey is not affected by politics or other elements, this research excludes the participation of party secretaries. Some line managers who were related to the core area were also selected as participants in the survey. Moreover, to ensure the comprehensive quality of the survey, general managers and vice-general managers in the six branch companies also participated in the survey in order to evaluate the performance and management ability of middle managers in different departments.

## **7. Ethical Considerations**

In accordance with the Aston Business School Research Ethics Guidelines and Processes, the ethical issues were considered before the research was undertaken and adjusted during and after the data collection. The researcher referenced the ethics documents submitted and approved by the ABS committee before the start of data collection (in 2018). The ethical consideration is based on the PhD Graduate

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School Student Guideline at ABS.

Bryman (2012) states that the identities of respondents must be kept confidential and private during the survey process. In addition, a meeting with the potential respondents must be arranged to clarify the purpose and progress of the research prior to saying that they have given their informed consent. In addition, the researcher should be contacted if the respondents have any questions (Anderson, 2009).

Before contact is made with respondents, emails must first be sent to senior managers. In order to get their support, the researcher needs to arrange several meetings to explain the aim of the research and the possible contribution to the organisational reform. The selection of participants for the questionnaire survey is made according to the order in which the researcher visits the companies and departments. The appointments should be arranged through the top leaders, but participation should be voluntary. It should also be ensured that each participant is given an information document which includes a brief introduction to the research, their rights, and data confidentiality, the intention of the survey and the researcher's contact details.

It is also necessary to assure participants that what they are consenting to is voluntary and that they have the right to withdraw their consent at any time before

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the data has been published. All participants need to sign the consent form if they agree with the conditions (Appendix).

The process of data collection should meet the legal requirements set by data protection and the use of personal data: All steps will ensure secured anonymity and be confidential. All databases are stored by the code system and no participant's personal details are shown on the questionnaire responses. In the case of withdrawing the consent, the data will be deleted to make sure it will not be used in the research. Also, the respondents will be notified prior to the data collection being conducted. Additionally, it should be ensured that there is no potential psychological and physical harm done to respondents during and after data collection. Moreover, it should also be ensured that the results are used honestly and objectively and without distortion whatever the consequences for the firm's image.

## **8. Research Procedure**

This study includes two phases of data collection. First is a pilot study, prior to the main study, which was conducted as preparation in order to avoid major mistakes. Next section is the main study the details of which are introduced and discussed in the following paragraphs.

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## 8.1. Pilot Study

A pilot study is considered as "a small scale version(s), or trial run(s), done in preparation for the major study" (Polit et al., 2001: 467). A well-conducted and well-designed pilot study should have two elements: first, it is to avoid risk and second, it is to sound a warning that the main study may fail.

There are many possible reasons for using a pilot study. Prescott and Soeken (1989: 65) stated that the objectives of a pilot study, based on textbook reviews of research, should include a set of assessments of: "(a) feasibility, (b) adequacy of instrumentation, and (c) problems of data collection strategies and proposed methods". They then added two other suggestions: "(d) answering methodological questions, and (e) planning a larger study". Moreover, Jairath et al. (2000: 92) provided the sixth potential contribution of the pilot study: (f) "obtaining sufficient preliminary data to justify a grant award". Despite some researchers doubting whether this type of preliminary work can be truly defined as a pilot study, it is still used frequently enough in practice. Hence, a pilot study will be included for the purposes of this research.

Peat (2001) concluded the pilot study procedure that includes 9 steps (shown in Table 4.4). In this study, the researcher contacted 11 respondents to complete this pilot study. The respondents included 3 top managers and 8 middle managers from different departments in the six companies, which included HR, administrative,

exploration and production. The main objective of this pilot study is to improve the internal validity of a questionnaire, which followed the steps recommended by Peat (2001: 123), which are used to “pilot a questionnaire on a small group of volunteers, who are as similar as possible to the target population”.

<b>Pilot study procedures to improve the internal validity of a questionnaire</b>	
1	Administer the questionnaire to pilot subjects in exactly the same way as it will be administered in the main study.
2	Ask the subjects for feedback to identify ambiguities and difficult questions.
3	Record the time taken to complete the questionnaire and decide whether it is reasonable.
4	Discard all unnecessary, difficult or ambiguous questions.
5	Assess whether each question gives an adequate range of responses.
6	Establish that replies can be interpreted in terms of the information that is required.
7	Check that all questions are answered.
8	Re-word or re-scale any questions that are not answered as expected.
9	Shorten, revise and, if possible, pilot again.

**Table 4.4: Pilot Study Procedure (Peat, 2001: 123)**

The first phase of this pilot study is to ensure the quality of the translated questionnaire. As the data of this survey is collected in China, and most of the respondents do not know English, it is important to make sure of the quality of the questionnaire translation. The pilot study can test if the translated questionnaires are appropriate to the Chinese language context. This research used the method of translation-back-translation (Brislin, 1980) in order to ensure that respondents would understand and process the items in the questionnaires so as to give a similar meaning and level of importance. The questionnaires were first translated into Chinese by professional translators and then bilingual workers were employed to



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translate the questionnaires back into English. This process ensures the quality of the translated questionnaires and minimizes any ambiguity arising from the translation, so ensuring the quality of the survey.

Additionally, in this phase, some problems of word translation could be discovered that were not considered before. For example, in the section on Organisational Receptivity for Change (ORC), “corporate/department vision” was a concept which it was hard to find clear corresponding concepts in Chinese, because the Chinese meaning of “corporate/department vision” was first translated by Taiwan Scholars and their version was not commonly used in mainland China. So, the question related to the “corporate/department vision” should add an annotation to explain that it relates to "the future objective of the corporate/department from the collective decisions made ".

The second phase of the pilot study is to test if the professional words and questions are appropriate to the Chinese language context or suit the organisational environment of the enterprise case. The researcher organised many meetings to gathered respondents in different groups and repeatedly discussed each point of ambiguity in the questionnaires. Also, respondents were asked to finish the initial questionnaire and calculate the time it took to finish the questionnaire to make sure that the formal questionnaire could be finished in fifteen minutes. Moreover, respondents were encouraged to give their own opinions on each question. This is

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to make sure that the final questionnaire is clear and targeted to the research objectives.

Therefore, one of the problems found was that there are some words that have distinct meanings in the Chinese environment compared to the English, such as “relationship” and “practice”. In the Chinese language context, it is very hard to distinguish between the meaning of “relationship” and “guanxi”. Most respondents understood relationship as “guanxi” because it has the same translation in Chinese. Finally, instead of “relationship”, other words were used to explain its meaning, like “relevance” between different people in the department. Also, “practice” in Chinese language has several definitions based on different contexts, hence the content of “practice” requires annotation added to the survey.

Moreover, from the feedback of the pilot study participants, it was noted that some items seemed to not fit the case context conditions in some companies. These items are all from ORC factors. The first item refers to “The top management would use their relationships with external contacts (government, media, or other influential people)”. The participants reflected that the “relationship” has the same word with “Guanxi” in the Chinese language, the question was easy to understand “the managers contact external group in secret to gang up for personal interests”. Two other items are “My department’s culture is very adaptive to change” and “My department promotes knowledge transfer between different departments”. The

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respondents reflected that the “top-down” change system is still the main form in the PetroChina Xinjiang. This causes the departmental culture not to be infused into the consciousness of proactive change, and the staff not to gain abilities to transfer and exchange the reform knowledge proactively between departments. Nevertheless, in order to ensure the validity of the measurement of the ORC scale, these three items will temporarily remain and still be considered in the analysis result.

Furthermore, another aspect that the researcher originally wanted to explore in the study was the change “initiated by top managers” or “initiated by middle managers”. However, all of the respondents in the pilot study provided the answer that the change strategy was initiated by top managers which indicated this set of questions was useless for this case context enterprise and so the researcher deleted them.

In brief, in this phase, the researcher corrected and added annotations to some professional words and deleted some factors which were not suitable to the case enterprise.

## **8.2. Conclusion of Pilot Study**

To sum up, the outcomes of the pilot study were beyond the expectations of the researcher. Due to the different language culture and management environment, it is difficult to predict if the questionnaire design is suitable for Chinese SOEs before

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undertaking the pilot study. Also, most of the respondents are over 40 years old and it is hard to confirm if they would support or resist change. However, during the pilot study, the researcher found that they all accepted and supported the organisational reform and that they are very interested in this research. In these initial questionnaires, they reflected that clear answers can be given and that many questions are related to reform.

However, out of consideration for environmental protection, this research survey planned to use the electronic questionnaire for the main study but most of the respondents are not good at using an online questionnaire APP but prefer to complete the questionnaire on paper. For the pilot study it was therefore decided to let participants choose the way they felt most comfortable to complete the questionnaire but, depending on the outcome of the pilot study, the researcher would decide to change the questionnaire type from online to paper in the main study.

### **8.3. Main Study**

The main study of this research is a quantitative, multi-sourced and survey-based data of the instruments which will be tested and developed in a new context. PetroChina Xinjiang is a typical large Chinese SOE with a complicated structure and various operational departments, therefore, six branch companies of PetroChina Xinjiang were chosen for this survey. Finally, there were 505 valid questionnaires

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returned from a total of 109 departments which participated in this survey. All the major managers and assistant managers from these 109 departments provided valid evaluation questionnaires and all these had been authorised by the top managers.

### **8.3.1. Data Collection Strategy**

According to the pilot study feedback, the main data collection was divided between two parts of the questionnaires. Questionnaire A focused on middle managers and line managers which involve change receptivity and corporate entrepreneurship. Questionnaire A also includes three demographic questions: type of the department, number of employees in the department, and manager position. The purpose of this part of the questionnaire was to examine the extent and progress of the change in each department of the different companies, through the middle managers' perspective. Some line managers, related to the core business in the departments, were also invited to the survey in order to ensure the accuracy and comprehensiveness of the data. In this stage of data collection, the researcher arranged to contact each department by phoning and personally visiting departments after acquiring clearance from the top managers. The researcher briefly introduced the survey to respondents and assured them of their privacy, then distributed the questionnaires after they gave their consent. Also, the researcher was available to answer any questions at any time regarding the questionnaires and survey. Finally, the researcher scheduled some days to come to the departments to collect the

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completed questionnaires.

Questionnaire B focused on top managers and the performance of their departments. Questionnaire B also includes two demographic questions: type of the department and number of employees in the department. The purpose of this part of the questionnaire was to avoid bias due to the subjective nature of middle managers and let top managers evaluate different aspects of middle managers in their branch company. In this stage of data collection, the researcher contacted each top manager separately in order to ensure independent answers which are not influenced by other factors. Each top manager has arranged a meeting with the researcher and was introduced to the steps of the survey. Every top manager was asked to complete the same number of questionnaires as middle managers in their company. For example, if there are 19 departments in this company, the top managers should finish 19 questionnaires to evaluate 19 middle managers in each department based on their management activities. They were told that their privacy was guaranteed and their answers were collected by the researcher after the meeting.

## **9. Data Analysis Strategy**

The data analysis of this study will use SPSS to test the Cronbach  $\alpha$  reliability of each factor. The aggregation will then be tested due to the research being based on

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the departmental level. An Excel tool developed by Biemann (2014) will be used to calculate the rwg for aggregation.

Then Confirmatory Factor Analysis (CFA) will be used to 1) test acceptable-fit dimensions, 2) determine the validity of convergent and discriminant and 3) model evaluations. The final step of this research is the mediation path analysis to test hypotheses by path analysis. Muthén & Muthén's Mplus will be used to analyse both CFA and path analysis.

### **9.1. Reliability (Cronbach $\alpha$ )**

Cronbach  $\alpha$  reliability is the most commonly used measure and was developed by Cronbach (1951) to measure the internal scale consistency, also called “correlations among the items” (Streiner, 2003; 100). Generally, the precondition for validity assessment in a study is to make sure of its reliability. Therefore, in the reliable research analysis, it should first be ensured the consistency of the measure data within the whole sample and ensure that any measurement error is random instead of systematic. According to the widely accepted standard, acceptable levels of reliability values are larger than 0.70 (Tavakol & Dennick, 2011).

### **9.2. Aggregation**

Since the early research of multilevel theory, researchers have acknowledged

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applying lower-level units are nested within higher-level units (Kozlowski & Klein, 2000; Rousseau, 1985), such as workers in departments or units, which are part of organisations (Klein et al., 1994). Generally, researchers are more focus on the investigation of individual-level (micro) or organisational-level (macro), but intermediary-levels (meso) research within an organisation is increasing attention by researchers (Hackman, 2003; Rousseau, 1985).

Chan (1998) proposed a typology of the composition model applied to the majority of unit/group level research. It states that most of the unit/group level construct research relies on two categories of logical model: direct consensus and referent-shift consensus. Direct consensus model uses aggregated data of individuals to realise unit-level construct. While referent-shift consensus model demands individuals rating organisational phenomena. The items of measure are aim to units instead of individuals. According to the description of consensus, this research follows the concepts of referent shift consensus, referring to the participants' individually completing the items describing the departmental assessments. The mean of departmental managers' ratings represent the departmental scores.

Additionally, Chan (1998) stated that the common factor to these two composition models is requiring a substantial agreement and homogeneity within a group. Because the group-level construct only has meaning under common characteristics existed within a group. In other words, "in the absence of substantial within-unit



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agreement, the unit-level construct is untenable, moot” (Klein et al., 2001: 4). However, it should be noticed there are still other types of composition models do not require to justify aggregation, such as the dispersion models, which responding the unit-level meaning through the dispersion or variance of the lower level (Klein et al., 2001).

The significant role of within-group agreements has been got attention in the organisational literature, especially in the field of psychology and organisational climate (e.g., James, 1982; Roberts et al., 1978). Generally, researchers assessing the antecedents and outcomes of higher-level constructs through the consensus-based composition models. There are three indices which generally used in justifying aggregation to demonstrate consistency and agreement among lower-level constructs: rwg, ICC (1), and ICC (2). The within-unit agreement typically refers to being assessed using the rwg index (Bliese, 2000). This measure and its inference for multiple-item assessment  $\text{rwg}(j)$  used to examine the degree of inter-rater agreement (IRA), which determined by comparing the observed variance within a group with one expected variance from random responding (Lüdtke & Robitzsch, 2009; James et al., 1984). Higher rwg values present higher levels of within-unit agreement. Specifically, the term “within-unit agreement” refers to “the degree to which ratings from individuals are interchangeable” (Klein & Kozlowski, 2000: 351), in other words, the agreement reflects “the degree to which rates provide essentially the same rating” (Kozlowski & Hattrup, 1992: 162). The widest measurement of

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within-group agreement related to the literature in the organisational field is the rwg designed for single items and rwg(j) designed for multiple-item scales (James et al., 1993). The rwg is calculated by comparing an expected random variance to an observed group variance.

Biemann et al. (2012: 68) argued the used of rwg-based indicates should follow the belief that “each target has a true score on the assessed construct and any variance among estimators is assumed to be error variance”. For example, if the transformational leadership is the construct to be measured, each manager should get the exact score assessed by their employees or leaders. The error variance can be viewed as the different scores of raters to each manager. Therefore, the interrater agreement could be evaluated by comparing the variance expected to the observed variance when a complete lack of agreement exists in raters.

In this study, the researcher chose to aggregate the lower level attributes to a higher level. The characteristics measured at the individual level of each factor was aggregated and raised to the departmental level. However, some scholars argued that the process that lower level variables raised to a higher level have a risk if it is to ignore within-group variation and treat the individuals as homogenous entities (Oostrom et al., 2008). Moreover, Gelman & Hill (2006) state that this process may overstate the relationship between the aggregated variables and the outcomes of interest.

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### 9.3. Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) is a statistical approach applied to examine the factor structure of a series of observed variables (Hinkin et. al., 1997). CFA can be useful for the hypothesis that there is a correlation between observed variables and their potential latent constructs. Additionally, CFA also provides the relationship and differences among the variable or scales of interests (Hinkin et. al., 1997). Lomax and Schumacker (2004) support the opinion that, in the case of the survey items, sample size has to be satisfactory.

The analytical results of CFA can be determined by about 30 goodness of fit indices (Mackenzie et al., 1991), but the most widely used is the chi-square goodness of fit test. Non-significant or significantly small is desirable as it means that the distinction between the variance-covariance matrix of the observed sample and the variance-covariance matrix of the expected sample is small enough (Hinkin et al., 1997). In other words, the lower the chi-square, the better the model fit. Moreover, other types of fit indices can also be recommended which include absolute and relative fit indices (Hinkin et al., 1997; Marsh et al., 1998).

The a priori model can be examined to see how well it reproduces the sample of data through the absolute fit index (Hu & Bentler, 1999) which is calculated by the fit between the expected and observed covariance matrix and the maximum likelihood (ML). Hair et al., (2010) suggested that researchers apply a variety of fit indices to

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help avoid the weaknesses existing in any particular one. Moreover, Iacobucci (2009) indicated that the researchers have an agreement to select a series of fit indices that should be reported in the research. They are:  $RMSEA < 0.08$ ,  $CFI \geq .95$ ,  $TLI \geq 0.95$ , and  $SRMR \leq 0.08$  (Bagozzi, 2010; Iacobucci, 2009; Hu & Bentler, 1999).

### **9.3.1. Second Higher-order Construct**

The second higher-order models are usually applied in the research that the "measurement instruments assess several related constructs, each of which is measured by multiple items" (Chen, 2005: 471). This research will analyse the ORC in the second-order construct to determine if the four dimensions of ORC represent a higher-order factor. This study will then compare the model fit of ORC between the first-order construct and second-order construct through CFA (Jayachandran et al., 2005; Ramani & Kumar, 2008).

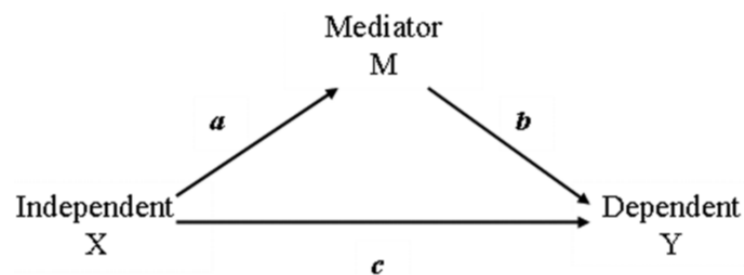
### **9.4. Mediation Analysis**

The final step of this study is the test for the mediation effect. Theoretically, the definition of the mediation model is when "an intervening variable is an indicative measure of the process through which an independent variable is thought to impact a dependent variable" (Iacobucci et al., 2007:139). Other scholars explained that mediation is the effect of an independent variable on a dependent variable, which is transmitted by a third variable known as a mediator variable (Shrout & Bolger, 2002;

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Alwin & Hause, 1975).

In a mediating variable model, as shown in Figure 4.1, it supposed that X variable makes an effect on Y variable by one or more mediate variables (M). The “c” presents the total effect of X on Y which is explained as the expected amount. Under this condition, "two cases that differ by one unit on X are expected to differ on Y, may come through a variety of forces, both direct and indirect" (Hayes, 2009: 408).



**Figure 4.1: An example of a mediation model (Hayes, 2009: 408)**

Generally, the most commonly used approach for testing mediation is Baron and Kenny's (1986), who recommended the causal steps approach. This approach needs the researcher to test each path of the model and then make sure whether there is a variable function as a mediator by checking if a certain statistical requirement is met (Hayes, 2009). However, the causal steps approach has been challenged in the current research. The most critical reason being that, from the evidence of simulation studies, the casual steps approach is the least power effect among the several methods for testing intervening variable effects (Fritz & MacKinnon, 2007). In other

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words, if the effect of an independent variable (X) on a dependent variable (Y) is realised, in part, indirectly by a mediator variable (M), the casual steps approach has the least effect among the methods available to actually test that effect.

Preacher and Hayes (2008) have published an article on the modern approaches to inference about intervening variable effects. They first discussed the most famous approach, which is the Sobel test (Sobel, 1982, 1986), viewed as the supplement to the casual steps method (Hayes, 2009). This approach uses an inferential technique that is the product of the coefficients approach, which gives an estimate of the standard error of  $ab$  (Preacher & Hayes, 2004). Nevertheless, the Sobel test has a defect, which is that it assumes that the sampling of the indirect effect meets the normal distribution. However, the sampling distribution is usually presented as asymmetric, which has kurtosis and skewness (Hayes, 2009; Stone & Sobel, 1990).

Therefore, Hayes (2009) states that from the evidence of simulation research, bootstrapping is one of the most powerful and valid approaches in modern methods to test the intervening variable effect (Williams & MacKinnon, 2008). The most obvious advantage of bootstrapping is that the assumption is dependent on the estimate of the indirect effect itself. Unlike the Sobel test approach, bootstrapping makes no estimate of the shape of sampling distribution for the indirect effect, thereby avoiding the issue of whether the criteria of the Sobel test is met.

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Bootstrapping approach uses the sample of size  $n$  which is "repeatedly resampled during analysis as a means of mimicking the original sampling process" (Hayes, 2009: 412). When the resampling of size  $n$  is built, it allows any case once drawn so it can be thrown back to be redrawn. Then  $a$  and  $b$  can be estimated by the resampled data when the resample is built, then the path coefficients product can be recorded. This process is repeated  $k$  times in total. The  $k$  is recommended to be at least 5000 by Hayes (2009). When the process is done, the researcher will use the  $k$  estimates to conduct a CI confidence interval in order to infer the size of the indirect effect in the sample of people. Generally, a 95% CI confidence interval is recommended in the data analysis (MacKinnon, 2012).

## 10. Measures

This section will describe the measures of each factor including ORC factors, corporate entrepreneurship, and performance. The section will then provide the standardization and reliability of each factor and clarify the example items, how the researcher adapted items based on the pilot, and which measures were reported by which level of management.

**Organisational Receptivity for Change (ORC):** The measurement scale of ORC was developed by Taha (2014) and used in the Malaysia hospitality industry. The

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research on ORC before Taha (2014) used qualitative methods which caused limitations to the concept when applied to a wider research field (Newton et al., 2003). Taha (2014) first developed a quantitative approach which supports future research on ORC studies and adapts the scale for other contexts. The measurement developed involved 4 dimensions, including: “Ideological Vision, Leading Change, Institutional Politics and Change Orientation”. The measurement uses 5 point Likert with response categories from strongly disagree (1) to strongly agree (5).

The first dimension, Ideological Vision, reflects the significance of vision to set the aims for the firms through establishing a series of guidelines related to the development of new policies and strategies. This measurement is based on the institutional theory which guides the vision for improvement of staff social behaviour among the organisations (Greenwood & Hinnings, 1996). Moreover, vision can be used to create a brief that reminds the organisational staff of the core value of the firm (Kelly, 2000). Taha (2014) states that vision can also be viewed as a guideline for top managers to design new strategies and policies. This dimension includes four items: “My department’s vision is clear to all employees”; “The top management has always considered the department’s vision when developing new strategies”; “The change programme is in line with my department’s vision”; “My department’s change policies are in line with the department’s vision”. Based on the experience of the pilot study, an annotation was added to explain the vision as “the future objective of the corporate/department from the decisions made through collective”. The Cronbach



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alpha has a good score with this dimension (0.929).

The second factor, Leading Change, is based on both institutional theory and a resource-based view (RBV). The items refer to how the key people in the organisation play their role of leading the change during the reform process (Taha, 2014; Washington et al., 2008). It also describes how the leaders are viewed as resources to expedite organisational change and explains that the extent of change implementation depends on leaders' capabilities. This factor involves four items: "The change leader would often create a team to help manage the change programme"; "The team usually comprises at least one senior manager"; "My department would give the change leader the power and authority to implement these changes"; "The change leader's knowledge on change management enhances the change implementation success". The Cronbach alpha shows a good score of 0.940.

The third factor, Institutional Politics, focuses on the significance of a network structure and how it influences the pace and rate of change. The items include power relationships, network types, political skills and other network supports (Taha, 2014). This factor is also conducted under four items: "The top management would use their relationship with these individuals/groups to implement change"; "The top management would use their relationships with external contacts (government, media, or other influential people) to implement change"; "The top management

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would form alliances with these individuals to gain support”; “The department formalizes participation procedures with all these individuals/groups”. An annotation is added to explain that “Alliance” in this research can be understood as “to organise people to get together” without any entrenched political culture. The Cronbach alpha shows a good score of 0.863.

The fourth dimension, Change Orientation, is defined as the “organisation’s routines, mechanisms and culture that facilitate change and transformation” (Taha, 2014), which combines the factors of Implementation Capacity and Possibility Space in ORC. It aims to address the issues on change capacity related to organisational flexibility and adaptability. Moreover, the items of this dimension focus on the measure of a set of organisational processes, routines and culture in order to promote organisational transformation and change (Taha, 2014). It has seven items, which aims to ask about the extent to which a respondent’s department “is always open about discussing issues relating to change”, “would provide continuous support for employees involved in change”, “promotes knowledge transfer between different departments”, “has the capacity to absorb new practices”, “has the strategies to manage change that are clearly defined”, “always divides change programmes into achievable targets”, and “has a culture which is very adaptive to change”. An annotation is added to explain that the “practice” in this survey represents new behaviour and intention relevant to the organisation. Cronbach alpha is 0.934.

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**Corporate Entrepreneurship:** this measurement, developed by Zahra (1996), which includes a 14-item scale, is used in the Chinese SOE context by Tang et al. (2015). The managers were required to evaluate the extent of the engagement in their departments in the 14 items with a five-point Likert scale related to entrepreneurial activities during the previous three years. Middle level managers reported that the items involved three different dimensions.

In the original measurement, Zahra (1996) divided the corporate entrepreneurship into three dimensions. The first dimension focuses on organisational innovation, which includes five items. Items related to the introduction and creation of products, investment on research and development (R&D), and emphasis on patenting (Zahra, 1996). Items also referred to the measurement of a firm's proactiveness and aggressiveness (Lumpkin & Dess, 1996; Miller, 1983). Specifically, the questions asked if, over the past three years, this department: "has spent heavily on research and development R&D"; "has maintained world-class R&D"; "has introduced a large number of new products to the market"; "has acquired significantly more patents than its major competitors"; "has pioneered the development of breakthrough innovations in its industry". The Cronbach alpha has a good showing here with 0.963.

The second dimension focuses on the firm's venturing activities and covers 5 items. Items refer to sponsoring new ventures (Block & MacMillan, 1993) and creating a new business (Zahra, 1993b) in order to explore a new business field. Among these

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items, the respondents were asked if, over the past three years, the department: “has entered many new industries”; “has expanded its international operations significantly”; “has acquired many companies in very different industries”; “has established or sponsored several new ventures”; “has focused on improving the performance of its current business, rather than entering new industries”. The Cronbach alpha also has a good showing here of 0.863.

The third dimension has four items related to the organisational ability of competition in strategic renewal efforts (Stopford & Baden-Fuller, 1994) and redefining its business domain through eliminating unprofitable operations to improve internal efficiencies (Hoskisson & Hitt, 1994). These items asked if over the past three years, the department: “has divested several unprofitable business units”; “has changed its competitive approach (strategy) for each business units”; “has initiated several programs to improve the productivity of business units”; “has reorganised operations to ensure increased coordination and communication among business units”. Based on the experience of the pilot study, “unprofitable” was ambiguous in the Chinese language context so that an annotation was added to explain that “unprofitable” units can be understood in this survey as the tedious and/or disorderly units. Also, the Cronbach alpha again has a good showing of 0.895.

**Performance:** The scale of performance measurement developed by Gibson and Birkinshaw (2004) was used to test the senior and middle management in the

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business units by asking the respondent to reflect on their performance over the last five years. This study used that scale to test the performance of middle managers who were evaluated by their top managers. The scale was measured based on three items and rated on a five-point Likert scale, regarding “This manager’s department is achieving its full potential”, “This manager’s department is overall doing a good job in terms of delivering results for the organisation” and “This manager has been given the opportunity and encouragement to do the best work he/she can do in the department” (Birkinshaw, 2004:216). The Cronbach alpha showed well at 0.946.

## **11. Conclusion**

To summarise, the purpose of this chapter provided the philosophical and theoretical underpinning of this research. This chapter also described the research design, which includes the pilot study procedure and main study strategy as well as the methodological underpinnings and a series of measurement scales of the construct. The outcomes and findings of analysis related to the scale evaluations and hypotheses are further discussed in the following chapter.

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## **CHAPTER 5: ANALYSIS FINDINGS**

### **1. Introduction**

This chapter presents the results of the data analysis. The chapter is structured into three main parts: first, it provides the preliminary analysis to describe the basic information about the data collected; then, it refines the scale of the ORC and corporate entrepreneurship to ensure the best fit model for this research; finally, it examines the hypotheses through mediation path analysis.

### **2. Preliminary Analysis**

The preliminary analysis section includes a description of the respondents' profile as well as the scale evaluation. It also provides the reliability based on the Cronbach alpha and the aggregation result of each factor.

#### **2.1. Demographic Profile**

The final data includes 54 items from 505 respondents in 109 departments. To be

specific, ORC and corporate entrepreneurship construct the middle and line manager completed, while departmental performance constructs the top manager completed. ORC factors act as the independent variable in the conceptual model, departmental performance is the dependent variable, and three dimensions of corporate entrepreneurship are mediators.

## 2.2. Descriptive Statistics

The research required the respondents to provide some basic information before the measurement, which related to the type of department, level of the manager's position and the size of the department. The result of standard deviations showed quite low indicates that the values tend to be close to the mean (also called the expected value) of the set. Overall, these variables all normally distributed, the Skewedness and Kurtosis values of variables were below the  $\pm 2$  which was acceptable (Ng & Houston, 2009). The details of the descriptive statistics for each factor are shown below:

Variables	Mean	Std. Error	Std. Deviation	Skewedness	Kurtosis
ORC (Ideology Vision)	3.78	0.052	0.54	-0.131	-1.193
ORC (Leading Change)	3.81	0.050	0.52	-0.191	-0.676
ORC (Institutional Politics)	3.70	0.045	0.47	0.128	0.534
ORC (Change Orientation)	3.87	0.051	0.54	0.056	-0.967
CE (Innovation)	2.95	0.061	0.64	0.270	-0.748
CE (Venturing Activities)	3.12	0.053	0.55	-0.078	-0.602
CE (Strategic Renewal Efforts)	3.94	0.048	0.49	-0.115	-0.497
Departmental Performance	3.84	0.051	0.53	-0.051	-0.355

**Table 5.1 Descriptive Statistics**

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The next section was to present the analysis of demographic profile related to the participants according to the research-based at the departmental level. Therefore, the demographic profile includes three parts: 1) organisational profile, 2) departmental profile, and 3) respondents position profile. The distribution of the organisational type is relatively equal; the departments belonging to Property Management are in the same proportion as departments in Engineering Technology (19.5%). The remaining Oilfield companies occupied: Shixi (16.4%), Fengcheng (15.7%), Zhundong (15.7%), Luliang (13.2%).

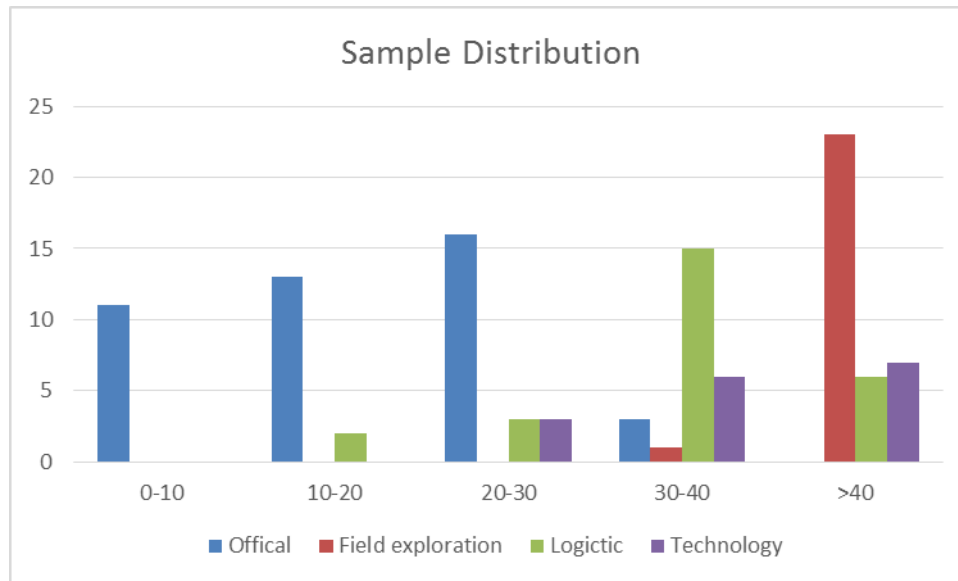
The departmental profile indicated that the main participants' profiles came from the official department, which occupied 40.8% of the total, and more than half of the departments had over 30 staff. The departments with over 40 staff account for the largest proportion (32.8%). The profile of the manager's position only focused on Questionnaire A because the respondents of Questionnaire B were all top managers. In the first part of the questionnaire, most respondents were middle managers, which occupied 76% of the total. Table 5.2 summarises the details of the profile.



		Frequency	Percent	Valid Percent	Cumulative Percent
Company Belonged	Property Management	56	19.5	19.5	19.5
	Shixi Oilfield	47	16.4	16.4	35.9
	Fengcheng Oilfield	45	15.7	15.7	51.6
	Zhundong Oilfield	45	15.7	15.7	67.2
	Luliang Oilfield	38	13.2	13.2	80.5
	Engineering	56	19.5	19.5	100.0
	Technology				
Department Type	Field	51	17.8	17.8	17.8
	Logistic	66	23.0	23.0	40.8
	Official	117	40.8	40.8	81.5
	Technology	53	18.5	18.5	100.0
Department Size	<10	32	11.1	11.1	11.1
	10-20	44	15.3	15.3	26.5
	20-30	54	18.8	18.8	45.3
	30-40	63	22.0	22.0	67.2
	>40	94	32.8	32.8	100.0
Manager Position	Line	69	24.0	24.0	24.0
	Middle	218	76.0	76.0	100.0

**Table 5.2 Departmental Profile Details**

Figure 5.1 shows the sample distribution of different types of departments based on the departmental size. The type of the department includes 43 official (central) departments, 24 field exploration departments, 26 logistic departments, and 16 technology departments. The X coordinate refers to the different sizes of department populations, which is divided into five parts. The Y coordinate presents the number of people in each department. It shows that almost all of the departments have more than 10 people except official departments, and most of the field exploration departments have more than 40 people.



**Figure 5.1 Sample Distribution**

### 2.3. Aggregation Results

Generally, there are three indices of aggregation wide used in the research related to the unit/group-level analysis: rwg, ICC(1), ICC(2). However, there still has no uniform interpretation of rwg and ICC values. According to the rule of thumb (Woehr et al., 2015), it is common to state that aggregation could be adequately proved if the average rwg values beyond 0.70 (Biemann et al., 2012; Cohen et al., 2001). Alternatively, some researchers, like LeBreton and Senter (2008) offered an approach to interpret the rwg index in various ranges: 1) rwg=0.00-0.30 of lack; 2) rwg=0.31-0.50 of weak; 3) rwg=0.51-0.70 of moderate; 4) rwg=0.71-0.90 of strong; 5) rwg=0.91-1.00 of very strong.

The values of ICC(1) and ICC(2) are recommended interpreted by traditional effect

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size conventions (LeBreton & Senter, 2008). Generally, an ICC(1) value of 0.25 would represent a large effect, 0.10 refers to a moderate effect, while 0.01 would be considered as a small effect (LeBreton & Senter, 2008). The cut-off values of ICC(2) are suggested between 0.70 and 0.85 (LeBreton & Senter, 2008). However, it should be noticed that these values are based on the thumb rather than a wide sample of empirical data.

Finally, evidence from recent research (Woehr et al., 2015: 726) argued that “many of the common rules of thumb for interpreting aggregation indices”, which may cause an overestimate of the true agreement level. Therefore, after the referencing an abundance of related literature, they argue against blindly using arbitrary cut-off values for any aggregation indices (Woehr et al., 2015; Lance et al., 2006; LeBreton et al., 2003; LeBreton & Senter, 2008).

Table 3 provides the rWG(J) value for ORC in four dimensions: Department Performance and Corporate Entrepreneurship in three dimension. Specifically, the rwj (uniform) values are considered as an upper bound of the within-group agreement, while the rwj (measure-specific) values are viewed as lower limit theoretically which based on the alternative null distributions (Biemann et al., 2012). F ratio was also reported in this research which is the result of “an ANOVA-based significance test of between-group differences and indicates the statistical significance of group membership” (Biemann et al., 2012: 78). This study used an

Excel-based statistical tool created by Biemann et al. (2012) to compute interrater agreement statistics and all complementary indices shown in Table 5.3.

Factors	rWG(J).uniform				rWG(J).measure-specific				
	Mean	SD	Shape	S <sup>2</sup> E	Mean	SD	F ratio	ICC(1)	ICC(2)
ORC (ideology vision)	0.95	0.08	Normal	1.04	0.88	0.14	3.60	0.50	0.72
ORC (leading change)	0.96	0.05	Normal	1.04	0.89	0.16	4.36	0.56	0.77
ORC (institutional politics)	0.94	0.08	Normal	1.04	0.87	0.20	3.76	0.51	0.73
ORC (change orientation)	0.96	0.08	Normal	1.04	0.91	0.15	4.56	0.57	0.78
Department Performance	0.92	0.16	Normal	1.04	0.84	0.24	2.10	0.36	0.52
CE (Innovation)	0.97	0.04	Normal	1.04	0.91	0.13	7.69	0.72	0.87
CE (Venturing activities)	0.96	0.06	Normal	1.04	0.89	0.20	5.47	0.63	0.82
CE (Strategic renewal efforts)	0.93	0.15	Normal	1.04	0.85	0.24	3.08	0.44	0.68

**Table 5.3 Aggregation**

### 3. Higher-order Multidimensional Constructs

The higher-order multidimensional construct is increasingly widely used in the research (Johnson et al., 2011; Edwards 2001; Law et al. 1998), which refers to the second-order latent factors. The indicators of the higher-order multidimensional construct are the independent structure which supported by their own research history and theory, thus they are generally considered as more simplicity and breadth (Johnson et al., 2011).

In the higher-order construct, the function of subdimensions very much in the same way and therefore it makes sense to utilise a higher-order factor where it is one

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overall construct (Johnson et al., 2012). For example, core self-evaluation (CSE) is often seen constituted by self-esteem, generalized self-efficacy, neuroticism, and locus of control (Judge et al. 1997). These subdimensions act in very similar ways, therefore representing CSE as one overall higher-order factor is appropriate.

However, if the subdimensions have specific and unique functions then it is necessary to retain the focus on the dimensions rather than at the higher-order level. For example, cultural intelligence (CQ) which comprised of metacognitive intelligence, cognitive intelligence, motivational intelligence, and behavioural intelligence (Ng & Earley, 2006). Van Dyne et al., (2012) argued that the four subdimensions of CQ have more value of description which can better understand the CQ framework. In this case, using subdimensions would be more valuable for the research outcomes (Van Dyne et al., 2012).

According to the previous literature of ORC framework, the ORC has been seen as an interconnected framework since the research of Pettigrew et al. (1992: 28) which stated that the ORC is “a set of features seen as providing a linked set of conditions which provide high energy around change.” In the pioneering research of the ORC framework, Pettigrew et al. (1992) stated that the the ORC framework constructed by receptivity factors, which are interlinked with each other (Pettigrew et al., 1992). All factors are dynamic which impacted by environmental change and depend on paths. Each of them is formed during the process of accumulated development. In

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other words, the difference in the extent of receptivity depends on the interaction among receptivity factors.

Butler further supported and demonstrated this perspective in his research of ORC development. He emphasised that there is a dynamic interconnection between organisational context and action, which influence each other in various approaches (Butler, 2003). With the development of Butler's ORC framework, the second level (five-factors) of receptivity factors has confirmed by Butler and Allen (2008), which includes the first level (ideological vision, leading change, institutional politics, and implementation capacity) and the second level (possibility space). They asserted that of the "two levels of change within an organisation which continuously interact, one is more mechanistic and at a surface level, while the other level is deeper and more organic. Unless both sets of processes are considered during policy implementation, the management of change might fail" (Butler & Allen, 2008: 423).

Based on Butler's ORC framework, Taha (2014) developed the four-factor framework and continued to argue that the receptivity factors "are interlinked and dynamic in nature" (Taha, 2014: 245). She further proved the ORC framework is a higher-order construct, that is, the organisational receptivity to change. She stated that an organisation is more willing to accept change when all four receptivity factors are high, while an organisation has low receptive to change when all four factors present low level.

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Followed the demonstration of previous research, ORC framework was seen as appropriate to the higher-order construct. Therefore, this study demonstrated the higher-order ORC construct and considered the four dimensions as a whole factor in hypotheses testing.

The measurement of Corporate Entrepreneurship is defined as encompassing three types of processes: Innovation, Venturing, and Strategic Renewal (Guth & Ginsberg, 1990; Zahra, 1996). Innovation aims to apply organisational commitment to organisational systems by introducing new products and production processes. Venturing refers to the creation of a new business (Covin & Slevin, 1991; Lumpkin & Dess, 1996). Strategic Renewal efforts refer to the creation of new combinations of resources which bring new wealth (Guth & Ginsberg, 1990). It includes changing an organisational scope of the business, competitive approach, or both (Stopford & Baden-Fuller, 1994). It also adds shareholder value through building and acquiring new capabilities and creativity (Zahra, 1996).

The research of corporate entrepreneurship construct on its subdimensions can be traced back to the study by Zahra (1993b) which examined corporate entrepreneurship impacts on financial performance by venturing and strategic renewal subdimensions respectively. Although some of the later studies loaded the three dimensions in one factor (like Tang et al., 2015), there are more related studies are still focus on the function of subdimensions of corporate entrepreneurship (like

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Bierwerth et al., 2015; Yiu et al., 2007; Burgers & Jansen, 2008). Therefore, this study stated that the three dimensions of corporate entrepreneurship have specific functions and focused on the effect of subdimensions.

#### **4. Confirmatory Factor Analysis (CFA) Outcomes**

This section first refines the ORC to evaluate each item based on the questionnaires answered and CFA test results, then confirms the best fitting model of ORC and Corporate Entrepreneurship through CFA analysis. Finally, this section provides the CFA results of first order of ORC and Corporate Entrepreneurship, as well as second order on ORC. All CFA analyses were tested by Mplus.

##### **4.1. Scale Refinement of ORC**

Due to the ORC scale from Taha (2014) being an emerging unpublished measurement, and having only been tested in Malaysian hospitality research, it still needs to be refined in this research to fit the Chinese SOEs context. The researcher refined the measurement of the ORC scale following these next steps. The first step is the feedback collected during the pilot study. As mentioned in the last chapter, there are three items which have been selected for consideration to be deleted based on the pilot feedback.



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Then the next step is to try and address the issues of the selected items through professional people and related managers. During this process, the researcher confirmed that the items selected really were unfit for the companies' situations in the case-studies (details will be presented on the next discussion chapter). The final step is to use CFA to analyse the Modification Indices (MIs) of each of the receptivity factors in order to remove the highest sum of MIs, then re-calculated the MIs and repeated the procedure. Eliminating items with the highest sum of MIs would improve the model fit (Olaru et al., 2015; Sörbom, 1989). The three items considered for deletion are Q10, Q17, and Q18 in the ORC measurement scale. Q10 belongs to the Institutional Politics dimension, whilst Q17 and Q18 belong to the dimension of Change Orientation.

In terms of the CFA results, the first step was to test all 19 items in CFA by Mplus. The result showed  $\chi^2(146) = 434.918$ ,  $\chi^2/df = 2.97$ , RMSEA = 0.135, CFI = 0.880, TLI=0.860, SRMR=0.052. Q18 was then removed because it showed the highest modification indices (MI: Q18= 48.130). The second step was to test the CFA of ORC after Q18 was deleted. The result indicated:  $\chi^2(129) = 354.318$ ,  $\chi^2/df = 2.74$ , RMSEA = 0.127, CFI=0.896, TLI=0.877, SRMR=0.047. These were better than before but still didn't match the "good" fit standard so then Q17 was taken out due to the highest modification indices (MI: Q17= 23.651). When the CFA of the ORC was retested for the third time without Q17 and Q18 the CFA showed the result:  $\chi^2(113) = 267.011$ ,  $\chi^2/df = 2.36$ , RMSEA = 0.112, CFI=0.922, TLI=0.906, SRMR=0.045. Table 5.4 shows

the results of this standardized solution.

ORC		Estimate	S.E.	Est./S.E.	P-Value
Ideology Vision (IV)	Q1	0.818	0.035	23.226	0.000
	Q2	0.886	0.024	36.387	0.000
	Q3	0.894	0.023	39.465	0.000
	Q4	0.900	0.022	40.459	0.000
Leading Change (LC)	Q5	0.920	0.018	51.421	0.000
	Q6	0.898	0.021	41.938	0.000
	Q7	0.884	0.024	37.380	0.000
	Q8	0.874	0.025	34.593	0.000
Institutional Politics (IP)	Q9	0.799	0.041	19.631	0.000
	Q10	0.585	0.068	8.562	0.000
	Q11	0.857	0.032	26.825	0.000
	Q12	0.824	0.037	22.125	0.000
Change Orientation (CO)	Q13	0.800	0.037	21.338	0.000
	Q14	0.881	0.024	36.132	0.000
	Q15	0.834	0.032	25.955	0.000
	Q16	0.924	0.018	51.676	0.000
	Q19	0.872	0.026	34.069	0.000

**Table 5.4: ORC STDYX Standardization (deleted Q17 and Q18)**

It could be seen that loadings between items and the latent construct show higher than 0.5. However, it could be seen that Q10 has the lowest estimate index, so the author tried to remove Q10 to check if the model would fit better. After taking out Q10, the result showed a better model fit:  $\chi^2(98) = 225.334$ ,  $\chi^2/df = 2.299$ , RMSEA = 0.109, CFI = 0.933, TLI = 0.918, SRMR = 0.041.

The refinement of the ORC scale measurement is a significant practice for the further development of ORC. This research will discuss the ORC refinement in further detail

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in the next chapter based on the related literature and the actual conditions of the case-study companies.

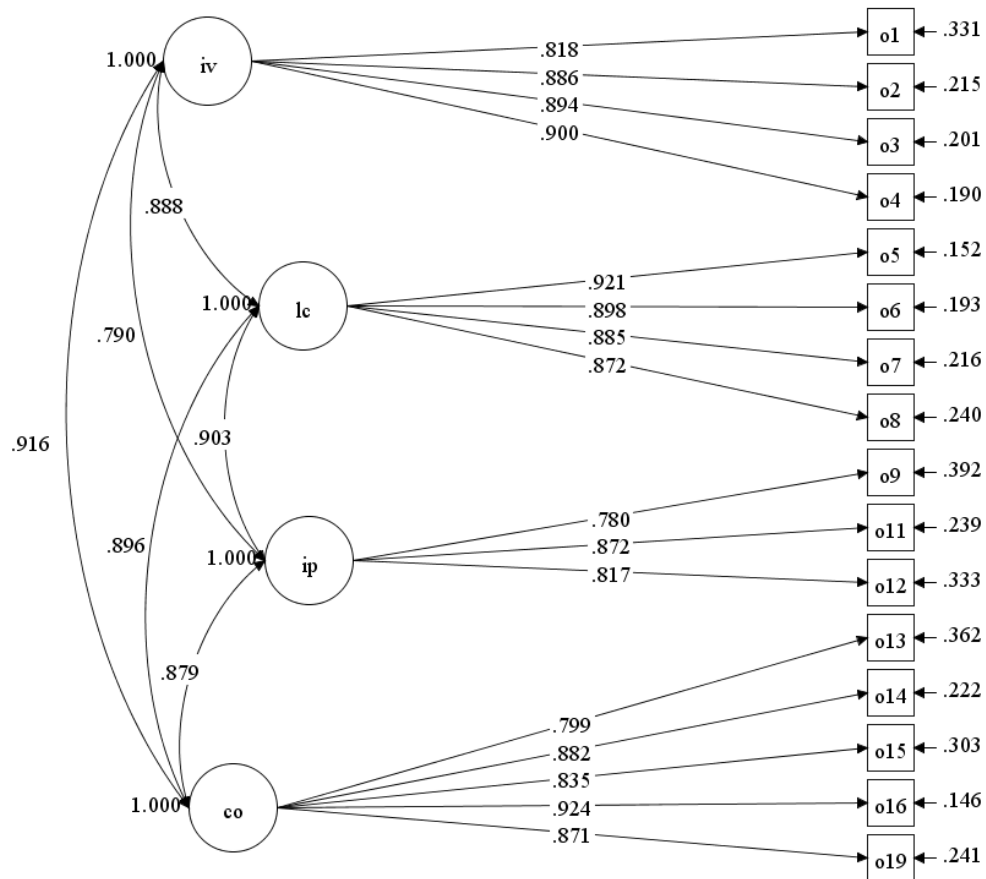
#### **4.2. ORC Best Fitting Model**

The next stage is to check if the four dimensions are the best fit model for ORC. The researcher first tested the order of ORC as four factors, three factors, two factors and one factor in order to see which is the best fitting model (ideology vision = IV, leading change = LC, institutional politics = IP, change orientation = CO). Table 5.5 was constructed to present: 4 factors, 3 best fitting factors [(ideology vision)/ (leading change, institutional politics)/ (change orientation)], 2 best fitting factors [(ideology vision, change orientation)/ (leading change, institutional politics)], and the 1 factor model. It was found that the ORC with the four dimensional structure was the best fit for this research. In addition, the best fit from the 1st order of CFA on ORC is shown in Figure 5.2.

**Table 5.5: Fit statistics from ORC measurement model comparison**

Models	$\chi^2$	df	$\chi^2/df$	RMSEA	CFI	TLI	SRMR
1 Factor alternative	350.543	104	3.37	0.147	0.870	0.850	0.050
2 Factor alternative	286.090	103	2.78	0.128	0.904	0.888	0.046
3 Factor alternative	249.491	101	2.47	0.116	0.922	0.907	0.044
4 Factor alternative	225.334	98	2.299	0.109	0.933	0.918	0.041

Note: 1 factor = (ideology vision, leading change, institutional politics, change orientation);  
 2 factor = (ideology vision, change orientation)/ (leading change, institutional politics);  
 3 factor = (ideology vision)/ (leading change, institutional politics)/ (change orientation);  
 4 factor = (ideology vision)/ (leading change)/ (institutional politics)/ (change orientation).  
 $p < .001$ .



**Figure 5.2: ORC 1<sup>st</sup> Order CFA**

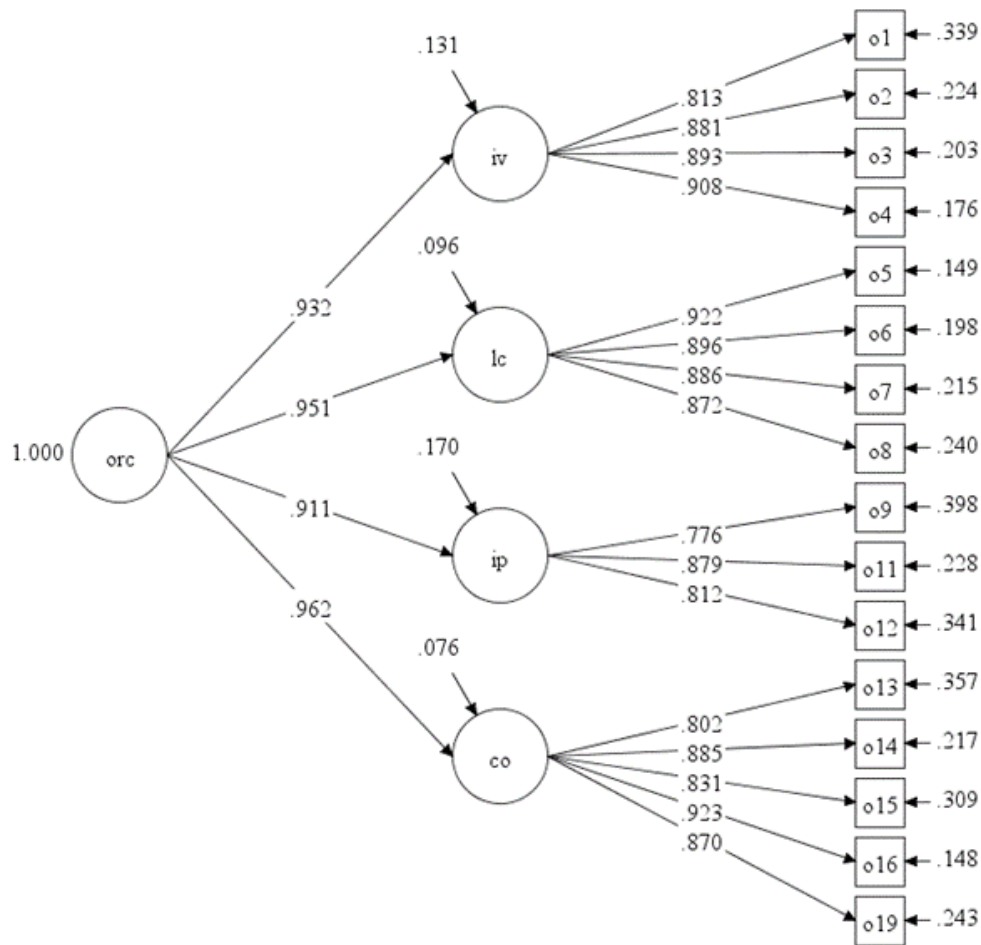
According to the results from the 1<sup>st</sup> order of ORC, it could be seen that the factor

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loading of each indicator onto the latent variables were high and the loadings amongst the four dimensions were also significant. Furthermore, ORC factors will be tested by four dimensions in the hypotheses test section.

#### **4.3. ORC 2<sup>nd</sup> Order Model**

The 2<sup>nd</sup> order model (Figure 5.3) showed very similar results to the first order model in terms of fit indices, with significant  $p < .01$ :  $\chi^2(100) = 2.38$ , RMSEA=0.113, CFI=0.927, TLI=0.913, SRMR=0.043. Moreover, it could be seen that the factors for loading for the first and second order constructs achieved the required level. Thus, no item deletion and modification was required. The results showed that ORC loads well on its four subcontracts. The factor loading of ORC on Ideology Vision, Leading Change, Institutional Politics, Change Orientation are 0.932, 0.951, 0.911, and 0.962 respectively. The R square for subcontracts of Leading Change (0.096) and Change Orientation (0.076) are lower compared to the Ideology Vision (0.131) and Institutional Politics (0.170). To summarise, the ORC, consisting of four sub-constructs, is well supported.



**Figure 5.3: ORC 2<sup>nd</sup> Order CFA**

#### **4.4. The Best Fitting Model for Corporate Entrepreneurship**

As previously stated in the measurement section, the original scale of Corporate Entrepreneurship was measured in three dimensions when it was developed by Zahra (1996). In this research, the author will keep all items of the measurement and check if the three dimensions are the best fit model for corporate entrepreneurship in this research. Similarly, the first order CFA of corporate entrepreneurship will be tested as three factors, two factors, and one factor in order to compare which is the

best fit model (innovation = I; venturing activities = V; strategic renewal efforts = S).

Table 5.6 presents 3 factors, 2 factor best fitting [(innovation, venturing activities)/(strategic renewal efforts)], and the 1 factor model. It was found that the corporate entrepreneurship, with the three dimensional structure, was the best fit for this research.

**Table 5.6: Fit statistics from the Corporate Entrepreneurship measurement model comparison**

Models	$\chi^2$	df	$\chi^2/df$	RMSEA	CFI	TLI	SRMR
1 factor alternative	506.315	74	6.8	0.226	0.771	0.729	0.106
2 factor alternative	302.683	76	3.98	0.165	0.879	0.855	0.065
3 factor alternative	224.252	74	3.0	0.136	0.920	0.901	0.061

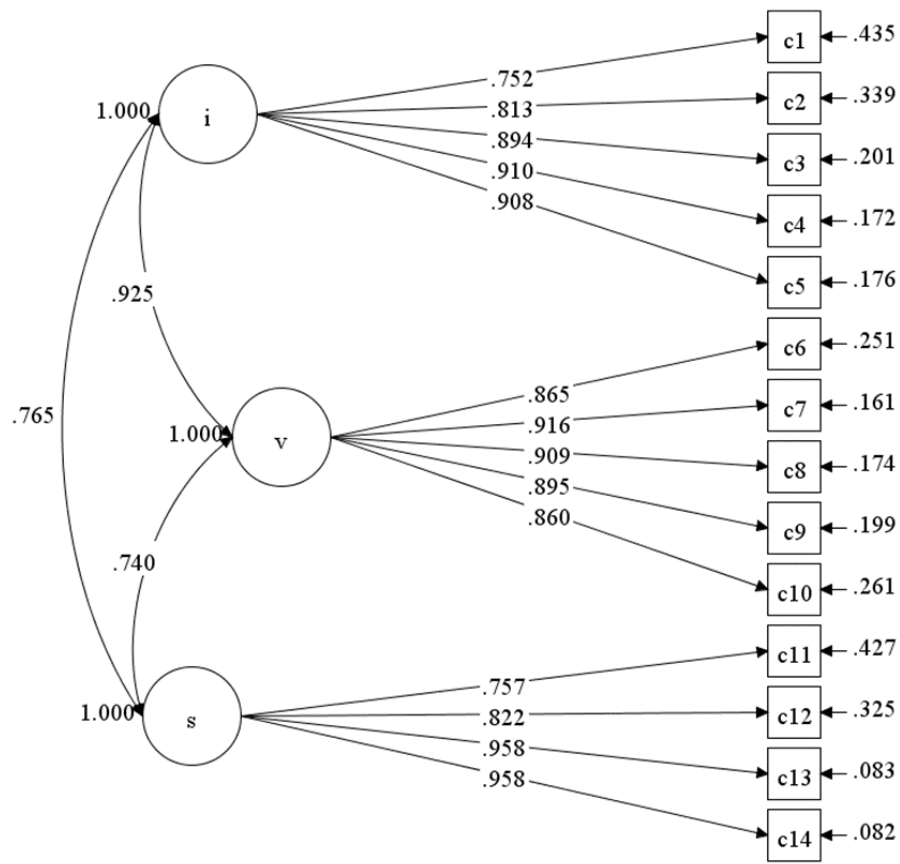
Note: 1 factor = (innovation, venturing activities, strategic renewal efforts);

2 factor = (innovation, venturing activities)/ (strategic renewal efforts);

3 factor = (innovation)/ (venturing activities)/ (strategic renewal efforts);

p < .001.

Additionally, the 1<sup>st</sup> order CFA on corporate entrepreneurship's best fit model is shown in Figure 5.4 below.



**Figure 5.4: Corporate Entrepreneurship 1<sup>st</sup> order CFA**

According to the results of the Corporate Entrepreneurship 1<sup>st</sup> order, it could be seen that the factor loading of each indicator onto the latent variables were high and the loadings amongst the three dimensions were also significant. Furthermore, the factor of Corporate Entrepreneurship will be tested by three dimensions in the hypotheses test section.



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## 5. Mediation Analysis

The method of path coefficients developed by Wright (1960) stated that path analysis is useful to ensure the rationale of conventional regression calculations. Duncan (1966) stated that path analysis focuses on interpreting issues rather than a method of discovering causes. In this research, the path analyses were conducted using Mplus version 2.1 (Muthen & Muthen, 2019) and using maximum likelihood estimation procedures. Compared to the traditional regression analyses, the advantage of using Mplus is that "fit indexes are computed for the model as a whole rather than only providing path coefficients" (Senn, 2004: 455). All tested items had sufficient variability and approximately present as normal distributions (Senn et al., 2004).

In previous research, the measurement of ORC was in a limited quantitative study. There were two researchers who applied the ORC measurement in their research. Taha (2014) developed the measurement and divided the ORC as four dimensions but loaded four dimensions of ORC onto one factor during the mediation model test. This research examined the inter-correlations of ORC and found that the four dimensions loaded well on one factor (shown in Table 5.7). So, this research follows Taha's study (2014) and loads the four dimensions onto the one factor and tests the ORC as a variable in the path analysis.

**Table 5.7: The Inter-correlation of ORC Factors**

		Estimate	S.E.	Est./S.E.	P-Value	BOOTSTRAP 95% CI	
						Lower	Upper
ORC	IV	0.889	0.02	44.938	0	0.845	0.923
	LC	0.918	0.019	47.161	0	0.87	0.949
	IP	0.847	0.034	25.187	0	0.773	0.903
	CO	0.939	0.014	68.308	0	0.907	0.963

Note: Biased-corrected bootstrap 95%, 5,000 bootstrap samples

IV=Ideology Vision; LC=Leading Change;

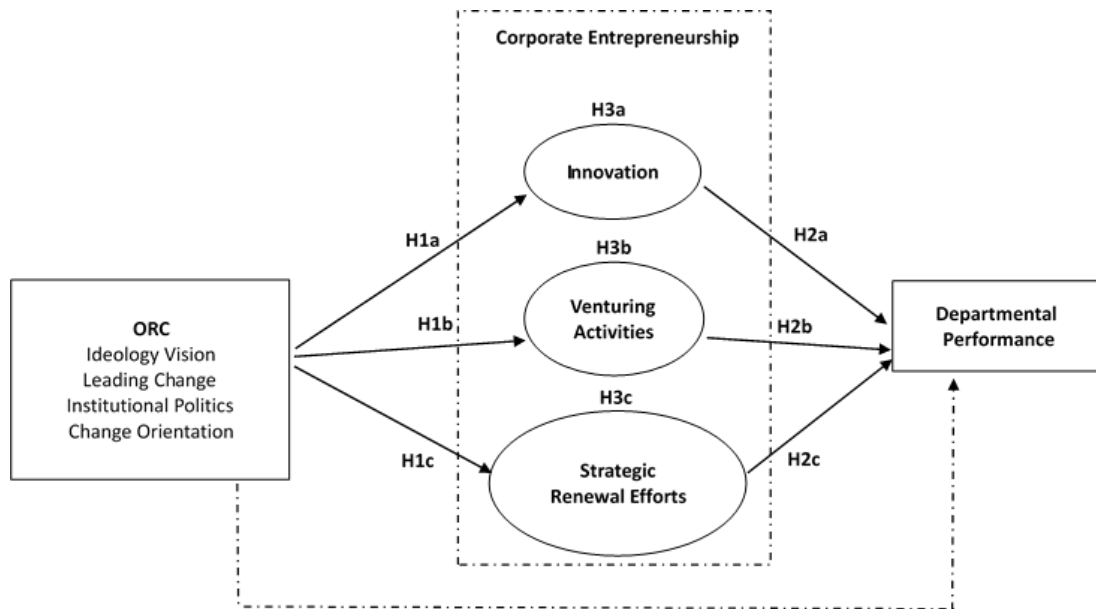
IP=Institutional Politics; CO=Change Orientation

p < .001.

The conceptual model is shown in Figure 5.5. The four dimensions, referring to Ideology Vision, Leading Change, Institutional Politics, and Change Orientation, was loaded onto one factor of ORC. Corporate Entrepreneurship three dimensions was viewed as three mediators respectively, that is: Innovation, Venturing Activities, and Strategic Renewal Efforts.

The hypotheses are presented as two types of correlation on the table: direct correlations and indirect correlations. Direct effects include the correlations between ORC and Corporate Entrepreneurship, three dimensions (Innovation, Venturing Activities, Strategic Renewal Efforts) respectively, as well as the correlations between Corporate Entrepreneurship, three dimensions and departmental performance. In the indirect effects, the three dimensions of Corporate Entrepreneurship as the mediators measured the effect on the relationship between ORC factors and departmental performance (shown in Table 5.8). Additionally, the mediation effects of Corporate Entrepreneurship will be tested on the relationship

between ORC factors and departmental performance respectively (shown in Table 5.8).



**Figure 5.5: Conceptual Model**

H1a: ORC factors will be positively associated with Innovation.

H1b: ORC factors will be positively associated with Venturing Activities.

H1c: ORC factors will be positively associated with Strategic Renewal Efforts.

H2a: Innovation will be positively associated with Department Performance.

H2b: Venturing Activities will be positively associated with Department Performance.

H2c: Strategic Renewal Efforts will be positively associated with Department Performance.

H3a: Innovation will mediate the relationship between ORC factors and Department Performance.

H3b: Venturing Activities will mediate the relationship between ORC factors and Department Performance.

H3c: Strategic Renewal Efforts will mediate the relationship between ORC factors and Department Performance.

**Table 5.8 Hypotheses**

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## 6. Hypotheses Testing

Multiple mediation is the appropriate analytic strategy when the mediation hypothesis is accepted by multiple potential mediators (Preacher & Hayes, 2008). The scholars provided three approaches to evaluating the multiple mediation model, they are 1) casual step approach, 2) product-of-coefficients approach, and 3) bootstrapping approach (Preacher & Hayes, 2008). However, the front two approaches have their limitations. The casual step approach relies on a set of individual paths instead of testing the specific effects. The product-of-coefficients approach is only useful when the sample is normally distributed (Namoga, 2017) or when the effects are large or when large samples are available (Preacher & Hayes, 2008).

By contrast, the bootstrapping approach is more widely known and implemented in the current research analysis. "Bootstrapping provides the most powerful and reasonable method of obtaining confidence limits for specific indirect effects under most conditions" (Preacher & Hayes, 2008: 886). Therefore, they recommended bootstrapping is the primary approach, especially bias-corrected (BC) bootstrapping, to test the multiple mediator effects.

This research follows the approach to report the mediation analysis results used by Mplus (Muthén & Muthén, 2019). Then the research will test the model fits of other models alternatively, in order to examine whether the hypothesised model is the best

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fit model.

### **6.1. Mediation Path Analysis**

The mediation analysis is to test the effect of ORC on Corporate Entrepreneurship and the effect of Corporate Entrepreneurship on Departmental Performance. The model fit of the mediation model was positive with  $p < 0.001$ ,  $\chi^2(18) = 32.019$ ,  $\chi^2/df = 1.78$ , RMSEA = 0.085, CFI = 0.984, TLI = 0.968, SRMR = 0.029.

The next step was for the analysis to be undertaken on the direct and indirect effects. This research's purpose was to first examine how the ORC affects the three dimensions of the Corporate Entrepreneurship and how Corporate Entrepreneurship dimensions affect the Departmental Performance. Table 5.9 summarises the hypotheses results of the direct effects.

**Table 5.9: Standardized Model Results of Direct Effects**

Dependent Variables	Independent Variables	Estimate	S.E.	Est./S.E.	P-Value	BOOTSTRAP 95% CI		Hypothesis
						Lower	Upper	
Innovation	ORC	0.445	0.081	5.463	0.000	0.265	0.589	Support
Venturing Activities	ORC	0.683	0.051	13.311	0.000	0.566	0.768	Support
Strategic Renewal Efforts	ORC	0.614	0.056	10.967	0.000	0.488	0.711	Support
Departmental Performance	I	0.454	0.077	5.869	0.000	0.298	0.601	Support
	V	-0.052	0.156	-0.332	0.740	-0.376	0.248	Non Support
	S	0.072	0.130	0.550	0.582	-0.216	0.308	Non Support

Note: Biased-corrected bootstrap 95%, 5,000 bootstrap samples

I=Innovation; V=Venturing Activities;

S=Strategic Renewal Efforts

p<0.001

Based on these findings, it was found that there were four significant direct effects which showed up in the standardized model results: 1) H1: ORC has a significant effect on Innovation (I) with a point estimate of 0.445 and a 95% BC bootstrap CI of 0.265 to 0.589; 2) H2: ORC has a significant effect on Venturing Activities (V) with a point estimate of 0.683 and a 95% BC bootstrap CI of 0.566 to 0.768; 3) H3: ORC has a significant effect on Strategic Renewal Efforts (S) with a point estimate of 0.614 and a 95% BC bootstrap CI of 0.488 to 0.711; 4) H4: Innovation (I) has a significant effect on Departmental Performance (DP) with a point estimate of 0.454 and a 95% BC bootstrap CI of 0.298 to 0.601.

The next step was to examine the sum of indirect effect and specific indirect effects.

Table 5.10 presents the details of indirect effects which indicate the effects of ORC

on Departmental performance (DP). It first indicates the indirect sum, which are the three corporate entrepreneurship factors as a whole, and the mediator effect on the relationship between ORC and departmental performance. Then the specific indirect effects show the corporate entrepreneurship factors as three different mediators affecting the correlation between ORC factors and departmental performance.

**Table 5.10: Standardized Model Results of Indirect Effects**

Effects from ORC to DP	Estimate	S.E.	Est./S.E.	P-Value	BOOTSTRAP 95% CI	
					Lower	Upper
Sum of indirect	0.210	0.099	2.124	0.034	0.009	0.394
Specific indirect						
DP I ORC	0.202	0.052	3.865	0.000	0.114	0.320
DP V ORC	-0.035	0.107	-0.330	0.741	-0.254	0.169
DP S ORC	0.044	0.081	0.543	0.587	-0.134	0.193

Note: Biased-corrected bootstrap 95%, 5,000 bootstrap samples

DP=Departmental Performance; I=Innovation;

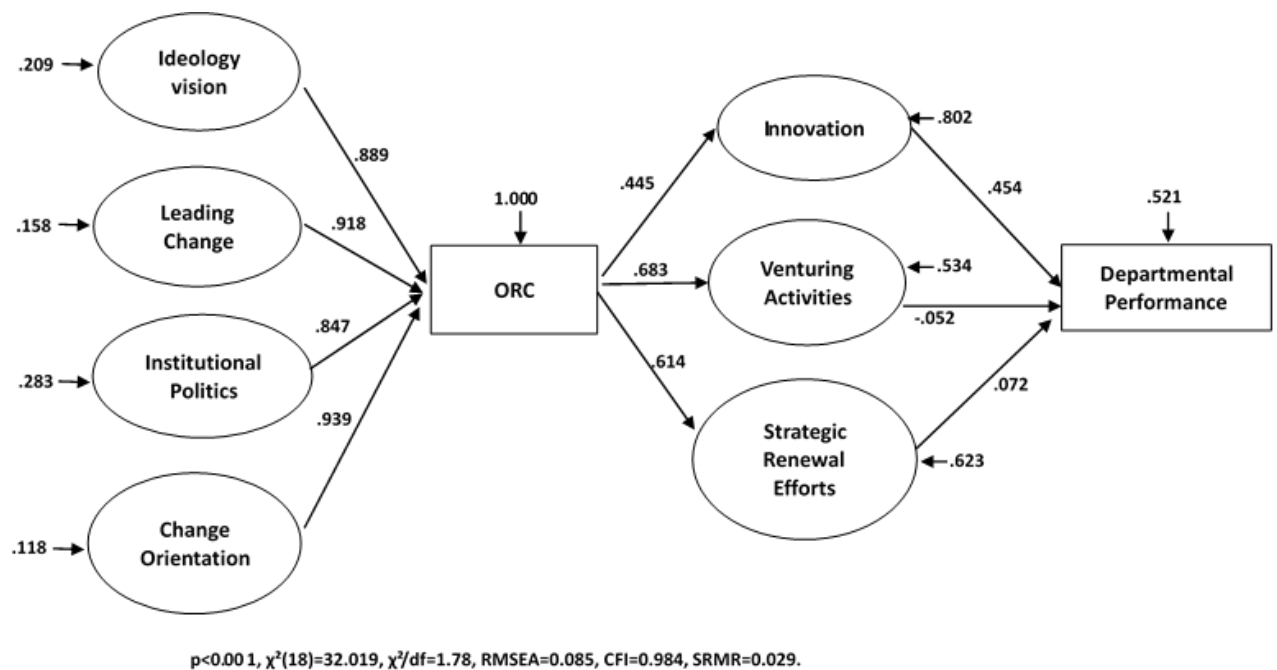
V=Venturing Activities; S=Strategic Renewal Efforts

p<0.001

It can be found in Table 5.10 that the sum of the indirect effects show significant results with a point estimate of 0.21 and a 95% BC bootstrap CI of 0.009 to 0.394. The specific indirect effects are: 1) through Innovation = 0.202, 2); through Venturing Activities = -0.035, 3); and through Strategic Renewal Efforts = 0.044. Table 10 presents the critical ratios for these effects and concludes that Innovation is likely to be an important mediator in this model (Est./S.E.=3.865, p=0.00). Bootstrap 95% BC

presents an agreement with the results of the product-of-coefficients strategy (0.114 to 0.32); innovation is the only significant mediator of the ORC and Departmental Performance relationship.

Overall, in the full mediation, the total effect of ORC on Departmental Performance through three mediators, shows significant results. The specific indirect effects indicate that only Innovation is a mediator since its 95% CI does not contain zero. Neither Venturing Activities nor Strategic Renewal Efforts contribute to the indirect effect above and beyond Innovation. Figure 5.6 illustrates the path coefficient values of the full mediation effect.



**Figure 5.6: Path Coefficient Values**



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## 6.2. Route Evaluations

Some researchers state that it is necessary to test the model fit of other alternative models in order to prove the performance of the hypothesised model (Sturman & Short, 2000; Holt et al., 2007). Taha (2014) conducted model testing on a scale development of ORC where the performance of the hypothesised model is better than other alternative models.

In this study, the researcher also provides the other types of models to test whether the model the research selected is the best fit model with the three factors. Table 5.13 shows the hypothesised model and the other two alternative models. The first alternative model (model 2) indicates that the three Corporate Entrepreneurship dimensions mediate the Departmental Performance effects on the ORC. The second alternative model (model 3) made the ORC as the mediator influence on the relationship between Corporate Entrepreneurship (Innovation, Venturing Activities, and Strategic Renewal Efforts) and the effect on Departmental Performance.

**Table 5.11: Alternative Model Constructs**

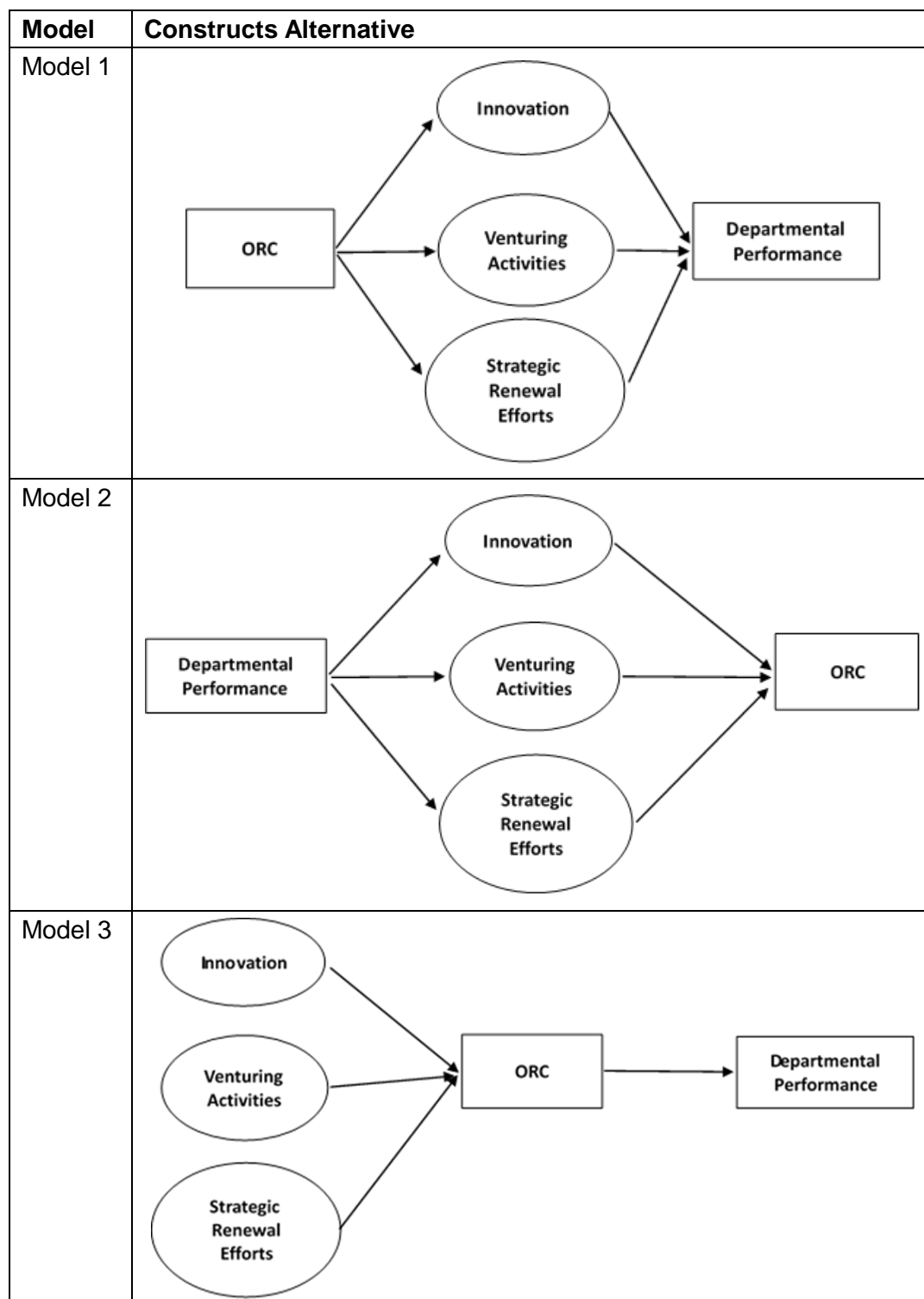


Table 5.14 shows the model fit of three models. Assessment of model fit provides an adequate explanation of the estimated constructs in the conceptual model (Anderson & Gerbing, 1988). Compared to the alternative models, the results of the model fit demonstrated that the hypothesized model is the best model fit.

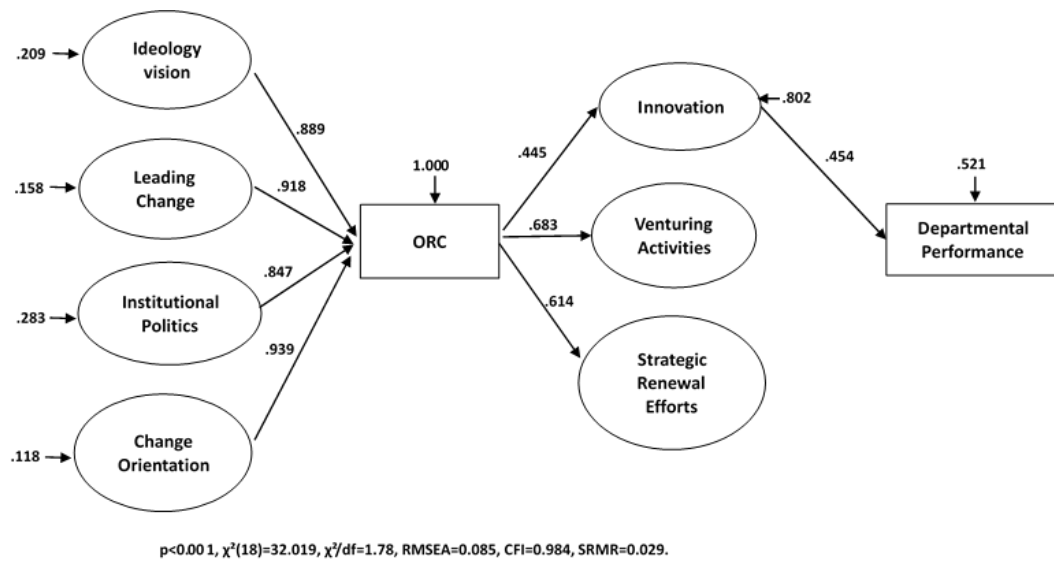
**Table 5.12: Best Fit of Models**

Model	$\chi^2$	df	$\chi^2/\text{df}$	RMSEA	CFI	TLI	SRMR
Model 1	32.019	18	1.78	0.085	0.984	0.968	0.029
Model 2	69.683	18	3.87	0.162	0.939	0.881	0.174
Model 3	56.299	20	2.81	0.129	0.941	0.912	0.051

### 6.3. Summary

Overall, the path analysis section shows that there are five hypotheses that have positive effects. Specifically, ORC factors significantly affect the three dimensions of Corporate Entrepreneurship. They are: 1) The ORC factors effect on Innovation; 2) The ORC factors effect on Venturing Activities; and 3) The ORC factors effect on Strategic Renewal Efforts. Secondly, it shows the direct correlations between Corporate Entrepreneurship dimensions and Departmental Performance and the positive effect of 4) Innovation's effect on Departmental Performance.

In terms of the indirect effect, Innovation is the only significant mediator of the Corporate Entrepreneurship dimensions. That is, 5) Innovation mediates the relationship between ORC factors and Department Performance. Figure 5.8 illustrates the significant path of coefficient values.



**Figure 5.7: Significant Path of Coefficient Values**

## 7. Conclusion

This chapter aimed to present the outcome of the research findings of the data analytic technique. The preliminary analysis showed the distribution of the sample sizes as well as the profile of departments and respondents. It then showed how the research refined the scale of the ORC and Corporate Entrepreneurship to determine the best model fit. The final step was to test the hypotheses by Mplus, which first tests the mediation analysis with direct and indirect effects. The second is to test the model fit of alternative models in order to prove if the hypothesised model is the best fitting model.

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The results of mediation effects showed that ORC factors significantly affect Innovation, Venturing Activities, and Strategic Renewal Efforts. Furthermore, Innovation was the only dimension that significantly affected Departmental Performance. In terms of the indirect effect, Innovation is the only mediator of Corporate Entrepreneurship significantly affecting the relationship between ORC factors on Departmental Performance.

To sum up, this chapter presented and explained the empirical findings that demonstrated the assumptions in the previous chapters. The outcomes provided valuable insight relating to the link between ORC factors and Corporate Entrepreneurship. The results supported the validity of the ORC scale measurement in the Chinese SOEs context and demonstrated that the ORC has feasibility in the lower level (department) research. It also confirmed the hypothesised relationship between ORC factors, corporate entrepreneurship, and performance. The next chapter will provide a detailed discussion that aims to take the research findings and combine them with the outcomes, as well as discuss the research aim and objectives.

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## **CHAPTER 6: DISCUSSION**

### **1. Introduction**

This chapter sets the context of the study which illustrates the rise of China and the importance of Chinese SOEs in that rise. Then the chapter summarises a review on the market reform of China's oil industry to explain how Chinese SOEs are changing to be a corporation and to practise marketisation. In the next section, the chapter reviews the research aims and objectives based on the research findings, which includes a discussion of refined ORC measurement in the Chinese SOEs context and hypotheses testing. Then this section presents the final conceptual model. Finally, this chapter provides the implications of the research.

### **2. The Rise of China**

The rise of China is considered to be a long-term process (Xuetong, 2001). Chinese people suffered for a long time before China's economic reform. At the beginning of the economic reform, thus, the Chinese government recognised the importance of modernisation and economic development. Therefore, the Chinese government established five-year development plans to achieve modernisation and economic

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development. So far, China's economic reform has gone through thirteen five-year plans.

With the development of the Chinese economy, China's rise has had the attention of the world since the late 1990s (Liou, 2009). The Chinese government's continuous adjustment of measures to create the rise of China, has caused there to be discourse across the world. After the impact of the Global Financial Crisis in 2008, the Chinese government created the policy of "China's Belt and Road" to respond to the economic setback and to try and ease the relationship with neighbouring countries (Wang, 2016). China's Belt and Road is considered a defensive strategy implemented in response to the global environment's felt vulnerability and insecurity when faced with China's rise (Wang, 2016). This situation makes the Chinese government adopted the mantra of "offensive for defensive" for future strategies in both diplomacy and business.

### **3. The Role of Chinese SOEs in the Rise of China**

The Chinese SOEs' transformation and its overseas expansion are considered to be the key to China's rise (Jones & Zou, 2017). In the 1990s, the Chinese government stated their strategy as "taking full advantage of both the domestic and foreign market". Chinese SOEs play a major role in the stabilizing of the domestic market

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and the expansion of overseas business (Liou, 2009). In the mid-1990s, the Chinese SOEs reform entered a significant phase due to the Chinese government's demand for them to meet the requirements of the WTO, so that they eagerly promoted the marketization of Chinese SOEs. This required SOEs to react more to "market signals than to government directives" (Liou, 2009:676). With the Chinese SOEs gradually integrating into the world economy, they were considered as the "arms-of-the-state" in order to increase national competitiveness. Therefore, the transformation of Chinese SOEs entered the process of corporate governance and autonomy; the shareholding system had also been introduced for enhancing the SOEs' performance and efficiency.

In the process of the Chinese SOEs' reform, the Chinese government's control over SOEs shifted from absolute control into a regulatory system. The government intended to provide SOEs with more autonomy and power to pursue profit-making activities that would raise their performance and competitiveness. However, this government approach caused the issues of confused governance structure and conflicts (Liou, 2009). The over-fragmented regulation of SOEs caused power and authority to be dispersed to different levels of institutions that led to factional struggles. It further caused the central and top leaders of SOEs' to have difficulty enforcing the other management levels to implement a purposive and coherent strategy, even though they had set one (Jones & Zou, 2017). This situation often caused the strategy outcomes to run contrary to expectations by central and top

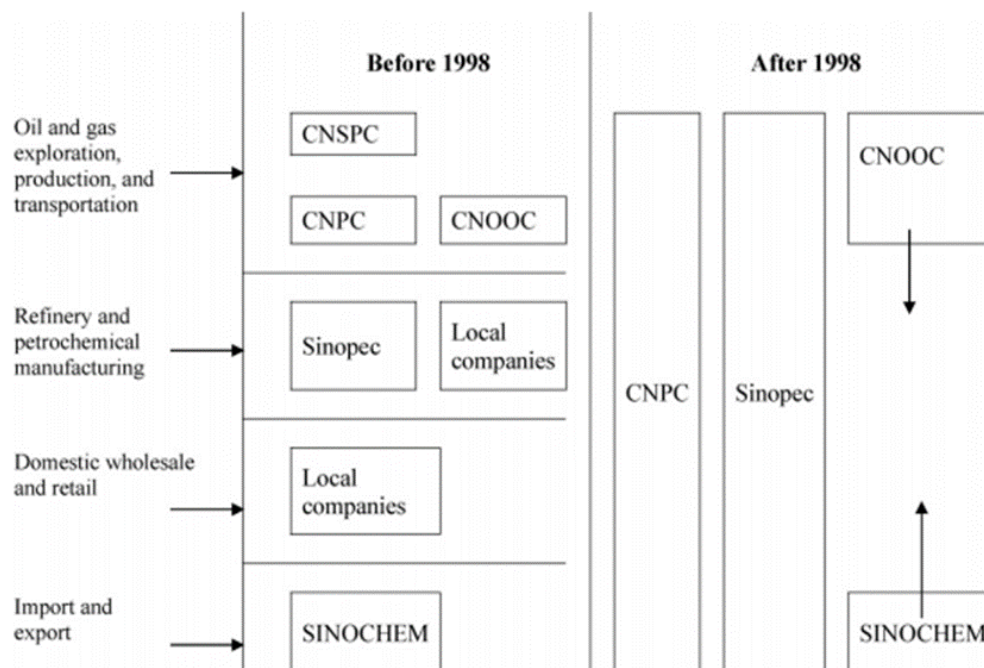


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leaders.

#### **4. Market Reform of China's Oil Industry**

China's oil industry also experienced transformation due to economic reform. After the power was decentralised by the government, the Chinese oil industry divided into four monopoly sectors: China National Petroleum Corporation (CNPC), China Petroleum & Chemical Corporation (Sinopec), China National Offshore Oil Corporation (CNOOC), and Sinochem Corporation. Other sectors were excluded from the Chinese oil market (See figure 6.1). Specifically, CNPC and Sinopec became the two giants of the industry with their exploration and production (E&P) business, as well as refining and selling (Lin, 2006). Hence, they are the largest oil companies in China and their businesses are based on geographical divisions (Chen, 2009). CNOOC is responsible for offshore production and exploration, while Sinochem Corporation focuses on crude oil and chemical products overseas (Zhang, 2004).



**Figure 6.1: The 1998 overhaul of the petroleum industry of China (Chen, 2009: 253)**

Since the restructuring, despite the Chinese oil industry being a state-owned enterprise which has national responsibilities and welfare, it has been gradually commercialized (Zhang, 2004). This change is based on the country's institutional reform. After four decades of economic reform, the relationship of subordination between government and SOEs has been dismantled, SOEs have confirmed their independence as commercial entities (Liou, 2009). The central government also established a set of strategies and policies to force them to enhance efficiency and performance in order to raise their competitiveness.

However, it's worth mentioning that even after marketisation and corporatisation, the top leaders (like general managers) of China's oil industry still have positions in the

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administrative level of government. Therefore, top managers of the oil industry are between two roles: a party official in the SOE and an executive officer in a corporation. In other words, managers have targets that not only ensure their political career development but also aim to gain profit for the corporation (Liou, 2009). Nevertheless, because of the reorganisation, managers are increasingly considering their corporate roles rather than their political identities. During the planned economy period, oil sectors acted as administrative organisations that operated national energy policies. The performance of organisations and managers were only evaluated by their political function if there were no published economic indicators. However, after marketization, the economic performance became the core business and target of the national oil sector. A set of financial indicators were established, linked to the managers' assessment, in order to enhance their motivation.

Compared to political performance, economic performance is more easily evaluated and observed. Managers focus on the economic benefits for the oil corporations as indicated by the global listing of the Chinese oil industry. On the other hand, however, due to the economic performance coming under regular evaluation, managers tend to have a short-term mentality on management. For example, the scandal of CNPC managers who manipulated an artificial shortage of fuel in 2007 (Chen, 2009) proved the imbalance in managers in the oil sector between their economic and political roles.

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There is no denying that the marketisation of the oil industry is a critical part of China's economic reform, which provided a powerful impetus for oil corporations to achieve their commercial value in both the domestic and international business markets (Chen, 2009). Since the marketisation, Chinese oil corporations have ambitions to become real competitive ventures, like their foreign counterparts, to take advantage of the global business market, especially after China's entry into the WTO. Therefore, they are more active and seek new technology resources to achieve success for the corporation as a whole, and to enhance their ability to take risks. Although there has been researching that proved that marketisation can effectively stimulate corporate entrepreneurship (Zhao & Zhang, 2014), they also state that government control could restrict this condition.

This situation is particularly prevalent in Chinese oil corporations. The Chinese oil corporations are currently facing the issue of how to balance government control and their own corporate autonomy (Wang, 2016). Although the central government has given oil corporations more market powers, it still hopes to keep control of them. The government has given too many responsibilities for the oil sectors. On the one hand, they expect oil sectors to achieve economic goals, such as enhancing market and economic efficiency, so the government gave oil corporations more autonomy. On the other hand, they also demand that oil corporations achieve non-economic goals, such as helping China's energy security, maintaining social stability, and serving China's overseas strategies. Hence, the government has, to a certain extent, keep

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control of them. The conflict between government control and corporate autonomy is still an ongoing situation for the Chinese oil corporations and for all SOEs. Therefore, the outcomes and findings of this research should discuss and reflect within this context.

## **5. Review of the Aims and Objectives**

This section is a review of the research questions and objectives. The aim of this thesis is to build a theoretical framework, linking the ORC theory and corporate entrepreneurship, in order to examine the impact of corporate entrepreneurship on performance within companies involved in on-going reform. PetroChina Xinjiang Companies were selected as the case context of the research. PetroChina Xinjiang Companies, as the subordinate body of the CNPC, have characteristics of the Chinese oil sector. Additionally, compared to other branches that have entered the "burnout period" of transformation [like Fushun CNPC (Smyth & Qingguo, 2001)] or have failed the transformation [like Yumen CNPC (Mao, 2019)], PetroChina Xinjiang was considered as it had emerging oilfields and was a motivated organisation that valued being transformed. In the Annual Report of PetroChina 2018, the Xinjiang Branch Companies were seen as having a critical role in the future strategy of the whole corporation. Therefore, this study used Xinjiang Branch Companies to explain how entrepreneurship is being established and diffused in the departments of

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organisations.

When it comes to discussing the research aims, one should go back to reviewing the research questions, they are: 1) Is the ORC framework applicable to Chinese SOEs? 2) Does a relationship exist where the ORC framework impacts on three dimensions of corporate entrepreneurship, respectively? 3) How can we model the framework associated with ORC, corporate entrepreneurship and performance under the Chinese SOEs context? In terms of the first research question, the researcher empirically investigated managers, working in different departments, on their perception of ORC based on different experiences. Then according to the research outcomes, the applicability of the ORC framework for the Chinese SOEs will be discussed in two sections: first, the refined measurement of the ORC scale, which is suitable for the Chinese SOEs; second, the refined ORC scale is demonstrated as a higher-order construct.

### **5.1. The Refined ORC Scale in the Chinese SOEs Context**

Due to the particularity of Chinese SOEs, this study refined the ORC measurement scale, adapting it to the Chinese SOE context. The refined ORC measurement includes 16 items which are divided into four dimensions. Three items of the original 19 items were deleted.

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The first deleted item is in the dimension of “institutional politics”, that is where “the top management would use their relationships with external contacts (government, media, or other influential people)”. As the research mentioned above, Chinese SOE managers are still considered as having an equal role to that of government officials. However, due to the new "Manager-incentive System", concrete performance indicators have been established and managers of SOEs are now more likely to pay attention to their corporate positions rather than their official authority (Liou, 2009). Additionally, the responses from the participants also proved this point. All participants in the pilot study agreed that due to the transformation, the managers are pursuing the governmental role separately from the role of Chinese SOE managers. They aim to prove their performance based on financial outcomes and management capacity and that they do not rely on governmental channels. Thus, the frequent contact between SOE managers and the government is discouraged in this situation.

Finally, the outcomes of the analysis further demonstrated the institutional politics item is invalid for the Chinese SOE context. In the first-order CFA analysis of the ORC framework, the result of the estimated index of this item showed 0.585, which is quite low. Hence, this item is unreliable for this research.

The second and third items are both in the dimension of “change orientation”, and refer to “my department’s culture is very adaptive to change” and “my department

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promotes knowledge transfer between different departments”. These two items require discussion based on the Chinese SOE context.

The second item focuses on whether the department culture is adaptive to change. Some previous studies found that employees' reactions caused by the changes were mainly negative, often associated with anxiety, anger and frustration (Tang & Gao, 2012; Huy, 2002). As a result, these negative emotions reduce the motivation and commitment of employees which, consequently, increases their withdrawing behaviour and thus negatively influences performance (Rusbult et al., 1988). However, based on the ORC theory, change is often perceived negatively until arguments are found to be compelling. It is necessary for managers to establish a culture with positive absorptive capacities in order to be adaptive to change and promote knowledge transfer. People will accept change when they really enjoy the activities.

Nevertheless, this situation becomes harder within the Chinese SOEs context. The series of policy reforms for Chinese SOEs were established by the government or top leaders. However, due to the over-fragmented regulation of SOEs, the government and top leaders were not engaged in the strategy implementation in subordinate organisations and departments, so they are often ignorant about whether the subordinate organisational/departmental culture is suitable for the change (Jones & Zou, 2017). Department managers and employees within Chinese



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SOEs can only passively accept change strategies imposed by the head of the company when they are facing rapid or discontinuous external change.

Moreover, this situation was also reflected by the participants in the pilot study of this research. Despite there being a number of managers that think that change is necessary, they still think their departmental culture is not adaptive to change. For example, a middle manager from the Fengcheng Oilfield Company revealed that they thought that change is a risky action because they have responsibility for the result of the change, but the achievement of the change might be a long-term process. In general, it can be said that not all managers in a department agree to implement change, while the managers who do agree to implement change would be required to take responsibility for the consequences if the change doesn't achieve the target in the short term. On the other hand, a middle manager from the Property Management Company reflected that due to the rotation system of managers, they cannot stay in one department for a long time, which means they do not have enough time to implement the change despite their ambitions to reform.

The third item focuses on communication between different departments. However, with large SOE companies, it was stated by scholars that intra-department communication was considered to be the critical element to promote change implementation rather than between departments. Generally, communication between departments was more focused on the top managers, while middle

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managers are more likely to be required to play a role in intra-department communication (Tang & Gao, 2012).

From the responses of participants in the pilot study, opinions, information and knowledge are generally shared within the departments. Middle managers are responsible for the main communication duties, which include: assigning the task schedules, coordinating workloads, encouraging the work, engaging employees, addressing the work problems of employees and reducing their concerns. Moreover, middle managers have the responsibility to provide employees with information relating to implementing change, justifying the rationale and appropriateness for the change, and resolving the concerns and questions from employees for change receptivity and change participation.

However, based on the responses of the participants in the pilot study, these communication approaches are hardly implemented between departments in the PetroChina Xinjiang companies, especially in the oilfield companies. The participants from oilfield companies (Shixi, Luliang, Zhundong, Fengcheng) reflected the fact that the field exploration or operation departments are located in different places, which are far away from each other. Specifically, the location of official, logistic and technology departments are usually in an urban area while the oil exploration departments are usually placed away from the urban areas, depending on the oilfield situation. Therefore, they have no chance to exchange and share information

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frequently. Generally, the management mode of these oil companies is that the middle managers report information and opinions to top managers and top managers share the information collected from the departments in the monthly formal meetings. Additionally, the participants from technology departments told the researcher that due to the different oilfields, with their unique characteristics (structure, compound, and stratum), know-how that works suitable for one department in the oilfield may not be suitable for the other oilfields, which results in knowledge which is hard transferable between different departments.

Finally, the outcomes of the research analysis support this perspective. The analysis findings in Chapter 5 showed that the modification indices (MI) of these two items (MI: Q17= 23.651; MI: Q18= 48.130) were quite high. Hence, these two items are unreliable for this research. The final list of items for the ORC scale are shown below (Table 6.1), comprising 16 items with four dimensions.

This study tested the ORC theory used in the Chinese SOEs context. The research refined the ORC scale and made it applicable to the case context in this research. Filatotchev, Wei, Sarala, Dick, and Prescott (2020: 18-19) argued that when we discuss the connection between Eastern and Western perspectives on management, we should consider several aspects: 1) “different institutional and cultural contexts”; 2) “translational capacity of particular practices”; 3) “adopting a more reflexive stance in the research endeavours”. This research supports this perspective and provides

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further implications for the ORC used in the Chinese SOEs context.

Firstly, it should be noted that in this particular topic of empirical research, we cannot compare different cultural and institutional contexts within organisations in any apolitical sense (Filatotchev et al., 2020). Some countries have their special institutional systems, economic mechanisms, and cultural contexts, and they can achieve economic benefit through a series of particular policies and strategies based on these (Smith & Meiksins, 1995). For example, the case context of this research (CNPC Xinjiang) which is in the special political system (the socialist market economy) established a series of particular policy agendas, based on China's economic reform, to achieve transformation and marketisation.

Secondly, we should consider that translational capacity may influence particular factors when researchers use Western measurement tests in the Eastern context. Boussebaa and Morgan (2014) state that the USA, the UK and northern Europe, as the geopolitical core, are most able to impact their ideas on other contexts. However, some scholars argued that researchers express their ideas in English which could lead to the loss or misunderstanding of particular meanings, which impacts the participants' understanding the actual thoughts of the research (Meriläinen et al., 2008). Therefore, researchers should consider the different normative frameworks and worldviews when doing the translation. This perspective is also related to the third point that "we need to adopt a more reflexive stance in our research

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endeavours" (Filatotchev et al., 2020: 19). Researchers should keep a questioning attitude to the taken-for-granted opinions of Western culture when they are investigating a new context. They should also avoid some sensitive perspectives which may cause resistance in some particular contexts that might then impact the quality of the research.

According to the analysis findings, due to the particularity of Chinese SOEs, the researchers discussed each item with participants in the pilot study and found that there were three items that did not accord with the actual situation of organisational reform. The next step was to examine this assumption by Confirmatory Factor Analysis (CFA). The results of CFA proved that the ORC had a higher goodness-of-fit after deleting the three items. However, it caused the limitation of ORC applied in the Chinese SOEs. The refined ORC measurement applied in the future research of Chinese SOEs should be further discussed.

**Table 6.1: Final List of Items for the refined ORC scale**

Ideological Vision↵	1.	My department's vision is clear to all employees.↵	↵
	2.	The top management has always considered the department's vision when developing new strategies.↵	↵
	3.	The change programme is in line with my department's vision.↵	↵
	4.	My department's change policies are in line with the department's vision.↵	↵
Leading Change↵	5.	The change leader often would create a team to help manage the change programme.↵	↵
	6.	The team usually comprises at least one senior manager.↵	↵
	7.	My department would give the change leader the power and authority to implement these changes.↵	↵
	8.	The change leader's knowledge on change management enhances the success of change implementation.↵	↵
Institutional Politics↵	9.	The top management would use their relationship with these individuals/groups to implement change.↵	↵
	10.	The top management would form alliances with these individuals to gain support.↵	↵
	11.	The department formalizes participation procedures with all these individuals/groups.↵	↵
Change Orientation↵	12.	My department is always open about discussing issues relating to change.↵	↵
	13.	My department would provide continuous support for employees involved in change.↵	↵
	14.	The strategies to manage change are clearly defined.↵	↵
	15.	The department always divides change programmes into achievable targets.↵	↵
	16.	My department has the capacity to absorb new practices.↵	↵

## 5.2. The Refined ORC Construct is a Higher-Order Construct

The ORC has been seen as an interconnected framework since the research of Pettigrew et al. (1992: 28), which stated that the ORC is “a set of features seen as providing a linked set of conditions which provide high energy around change.” The ORC framework is constructed by receptivity factors, which are interlinked with each other (Pettigrew et al., 1992). All factors are dynamic, which are impacted by

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environmental change and dependant on paths. Each of them is formed during the process of accumulated development. In other words, the difference in the extent of receptivity depends on the interaction among receptivity factors.

Butler further supported and demonstrated this perspective in his research of ORC development. He emphasised that there is a dynamic interconnection between organisational context and action which influence each other in various approaches (Butler, 2003). With the development of Butler's ORC framework, the second level (five-factors) of receptivity factors has been confirmed by Butler and Allen (2008), which includes the first level (ideological vision, leading change, institutional politics, and implementation capacity) and the second level (possibility space). They asserted that of the "two levels of change within an organisation which continuously interact, one is more mechanistic and at a surface level, while the other level is deeper and more organic. Unless both sets of processes are considered during policy implementation, the management of change might fail" (Butler & Allen, 2008: 423).

Based on Butler's ORC framework, Taha (2014) developed the four-factor framework and continued to argue that the receptivity factors "are interlinked and dynamic in nature" (Taha, 2014: 245). She further proved that the ORC framework is a higher-order construct; that is, the organisational receptivity to change. She stated that an organisation is more willing to accept change when all four receptivity factors are high, while an organisation has low receptivity to change when all four factors present

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low levels.

Based on the discussion above, this research examined whether the factors of a refinement framework were the first-order latent factors of a second higher-order construct. Through CFA, the researcher first tested the ORC construct as four factors, three factors, two factors and one factor, and then demonstrated that the four-factor ORC construct is the best fitting model. Then it could be found that Table 5.7 (Chapter 5) showed that all four receptivity factors are correlated with each other. Figure 5.2 and Table 5.5 (Chapter 5) showed that the first-order ORC scale achieved a model fit. Then the next step was to run the ORC loads well on its four subcontracts. The findings presented very similar results to the first-order construct in terms of fit indices and yielded significant results. The outcomes demonstrated that the refined ORC scale is a higher-order construct, that is, the four receptivity factors as a group of organisational factors that affect the rate and pace of change (Butler, 2003; Butler & Allen, 2008; Newton et al., 2003; Pettigrew et al., 1992). ORC plays a role in the department to promote external change practices and performance only when the receptivity factors act as a whole and interact with each other.

The next session discusses the hypotheses and conceptual framework of the study to explain the next two research questions. They are related to the relationship between the ORC framework and corporate entrepreneurship, and explain the conceptual model within the Chinese SOEs context.



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### 5.3. Hypotheses Testing

The hypotheses of this study are in four parts. The first part presupposed the ORC factors as an integrated construct that impacts on three dimensions of corporate entrepreneurship (innovation, venturing, and strategic renewal). The second part examined corporate entrepreneurship influences on the departmental performance. The third part tested ORC factors associated with departmental performance. The final part hypothesised that corporate entrepreneurship mediated the relationship between ORC factors and departmental performance. The details and results of the hypotheses are shown below (Table 6.2):

**Table 6.2: Hypotheses Testing Results**

H1a: ORC factors will be positively associated with Innovation.	Significant
H1b: ORC factors will be positively associated with Venturing Activities.	Significant
H1c: ORC factors will be positively associated with Strategic Renewal Efforts.	Significant
H2a: Innovation will be positively associated with Department Performance.	Significant
H2b: Venturing Activities will be positively associated with Department Performance.	Non-significant
H2c: Strategic Renewal Efforts will be positively associated with Department Performance.	Non-significant
H3a: Innovation will mediate the relationship between ORC factors and Department Performance.	Significant
H3b: Venturing Activities will mediate the relationship between ORC factors and Department Performance.	Non-significant
H3c: Strategic Renewal Efforts will mediate the relationship between ORC factors and Department Performance.	Non-significant

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### **5.3.1. ORC Factors and Corporate Entrepreneurship**

The previous literature demonstrated that in the large government-controlled enterprises, corporate entrepreneurship activities are complicated because these types of organisations should not be seen as a single operational structure (Sadler, 2000). For the organisations/departments which are to a large extent corporatised, they have more resources for corporate entrepreneurship activities. Conversely, for the organisations/departments which are low-level corporatized, they demand related strategies to motivate spontaneous entrepreneurship by staff within the organisations/departments. Additionally, although SOEs retain the requirement to keep the traditional bureaucratic behaviour (hierarchical structures) to implement control mechanisms and accountability, there are still opportunities to develop corporate entrepreneurship within structural interstices (Sadler, 2000). Technical and non-technical staff can both engage in decision-making, strategically providing resources to departments, ensuring all employees understand and accept the objectives and current operating environment of organisations/departments. At the same time, it is important to maintain the pressures for reform, which come from the turbulent external environment (Sadler, 2000).

ORC is a higher-order capability which allows the organisation to counter the downward pressure of the external environment by enhancing their ability to change and adapt faster (Butler & Allen, 2008). Based on the RBV theory, organisational resources play a role in the source of the firm's competitive advantage (Barney et al.,

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2011), while ORC acts as a mechanism for organisations to utilise and achieve their strategic agenda. Therefore, ORC can help organisations/departments to pursue available resources as a competitive advantage to achieve corporate entrepreneurship activities. Based on institutional theory, ORC can help organisations/departments reply to the turbulent external environment and to create new resources or renew existing resources to propel corporate entrepreneurship activities and achieve sustainable competitive advantages.

This study examined ORC factors related to the three dimensions of corporate entrepreneurship, respectively. The findings supported the hypotheses that ORC has significant implications on three dimensions of corporate entrepreneurship (H1a, H1b, H1c). Next, this section separately discusses the ORC effect on three dimensions of corporate entrepreneurship.

Innovation is viewed as one of the main drivers of organisational competitive advantage (Fosfuri & Rønde, 2009). Based on the ORC theory, organisations would be better at introducing and implementing innovation under a change receptivity context (Pettigrew et al., 2001). In turn, the impact of receptivity factors on innovation are also influenced by local context (Pettigrew et al., 1992). Innovation may challenge the current status and produce high costs, such as those of retraining and relearning (Henderson & Clark, 1990; Henderson, 1993). In large enterprises, these costs may develop into potential conflicts between departments if an innovative

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product or service by one department inflicts some costs upon another department. These conflicts disrupt teamwork between departments then influence innovation activities (Luo et al., 2006). Therefore, if the departments are able to provide a good environment for ORC, the high receptivity to change the environment of departments have the capacity to reduce conflicts that may exist during the change process, in order to promote innovation.

The preferences toward venturing activities of an organisation/department depend on the degree of risk-taking by managers and how much they are willing to maintain their belief in venturing activities (Shin, 2013). Many large corporations have felt strong pressure for change in the last decade, the source of this pressure is new technology (Ben-Menahem et al., 2013). These corporations, introducing and fostering new technology by corporate venturing activities (Ben-Menahem et al., 2013), then accelerate the marketisation and globalisation of organisations. Therefore, in this research, we can understand that the level of venturing activities in a department depends on the attitude towards change within a department. The high receptivity for change means good proactiveness in the department, which will bring forward-looking risk activities and enhance the departmental commitment to the venturing activities, which then promotes the level of these activities.

The key issue of the renewal strategy is balancing the relationship between organisations and the environment. "Strategic renewal over time requires a firm's

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rate of strategic renewal actions to remain co-aligned with the pace of change in the external environment over time" (Ben-Menahem et al., 2013: 216). A good balance between organisations and the environment can promote organisations' competitive advantage and long-term survival in the dynamically changing environment (Ben-Menahem et al., 2013). ORC factors play a role in strategic renewal in that the external environment stimulates the organisations to generate the ideas for transformation, but management inertia makes the change and renewal passive. If the organisation has a high receptivity for change, managers can actively implement change from the internal organisations which promote the strategic renewal proactively.

### **5.3.2. Corporate Entrepreneurship and Performance**

Over the years, previous literature has demonstrated that corporate entrepreneurship positively affects performance (like Zahra, 1993b; Zahra & Covin, 1995; Bierwerth et al., 2015). However, there is still a lack of discussion on how different dimensions of corporate entrepreneurship impact different measures of performance. This study examined three dimensions of corporate entrepreneurship relating to departmental performance, looking at each respectively. The findings supported the hypothesis that innovation has significant implications on performance (H2a). However, they also showed that venturing activities and strategic renewal have no positive effect on performance (H2b, H2c). These findings suggest that

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examining and discussing the different dimensions of corporate entrepreneurship activities is necessary because it shows which aspects the departments focus on in their corporate entrepreneurship activities. Moreover, it emphasises that departments should carefully consider the advantages and disadvantages of the respective corporate entrepreneurship activities before implementing them. Innovation activities are currently considered to be a critical part of PetroChina's reform (Naughton, 2017). In the PetroChina 2018 Annual Report, it was stated that enhancing innovation is still important in the future reform strategy. The study findings help to understand that corporations use more resources (financial and human) on innovation activity so that innovation effectively impacts performance.

Researchers have stated that, although companies have increased their attention on venturing activities, it did not always promote performance (Zahra & Hayton, 2008; Zahra & Garvis, 2000; Hastings, 1999). The outcome depends on whether the organisation is able to apply its abilities and skills and absorb new knowledge (Zahra & Hayton, 2008). Furthermore, "gains through absorptive capacity depend on the relatedness of a firm's existing knowledge base to its external knowledge" (Zahra & Hayton, 2008: 199). Therefore, the organisation may find it hard to integrate new skills and knowledge into its own knowledge system without relatedness. Based on this discussion, we find it is necessary to examine the absorptive capacities of corporations when future research is done in order to investigate venturing activities of Chinese SOEs.

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Additionally, compared to innovation activity, which can be put into practice quickly, venturing and strategic renewal activities may not directly improve an organisation's short-term performance (Zahra & Hayton, 2008; Bierwerth et al., 2015). Due to this study being cross-sectional rather than longitudinal, the effect of venturing and strategic renewal activities on performance may be underrated. Therefore, we encourage future research to apply a longitudinal perspective to investigate the different periods of corporate entrepreneurship activities and the mid to long-term implications.

Furthermore, another perspective which could explain why strategic renewal activity may not impact on performance is that it is dependent on the motivation of the corporate entrepreneurship activities in a company or department. An organisation/department can pursue different targets when implementing corporate entrepreneurship activities, such as adjusting or updating its existing business structure for meeting financial, management, and/or strategic goals (Phan et al., 2009). Bierwerth et al. (2015) state that the different motivations behind corporate entrepreneurship may influence a summed index that leads to a dilution of the results. Moreover, current theories, such as return on investment (ROI), explain that the impact of corporate entrepreneurship on performance can only reflect financial outcomes (Bierwerth et al., 2015; Phan et al., 2009). Therefore, when the motivation behind the strategic renewal has non-financial aims, it is hard for that to be reflected

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in the performance outcomes. In this research, due to the measurement of performance focusing on the management of performance rather than on the financial index, thus it is understandable why strategic renewal activity did not present significant results on performance in this research. Therefore, we recommend that future research considers the different objectives of corporate entrepreneurship activity in an organisation/department and adjusts the measurement of performance depending on the motivation behind corporate entrepreneurship activities.

#### **5.3.4. Mediators (Innovation, Venturing and Strategic Renewal)**

We found that there was some variance in the strength of the correlation between ORC factors and performance, which indicates that knowing what factors affect the ORC-performance link is essential. This study used three dimensions of corporate entrepreneurship (innovation, venturing, strategic renewal) as mediators that tested the relationship between ORC factors and performance.

The results of this research show that innovation plays a significant role in mediating the relationship between ORC factors and departmental performance (H4a). It means ORC factors affect performance and is mediated by innovation within the context of reforming Chinese SOEs. So far, “innovation strategy” is still at the core of the Chinese SOEs’ reform (Naughton, 2017). In the 2018 CNPC Annual Report, the



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business strategy for innovation included two aspects. Firstly, innovation strategies aim to produce new products or explore new oilfields by using new technology to expand sales and improve financial performance. Secondly, innovation strategies also include management system innovation, which optimises the research and development (R&D) to ensure the environmental operation, which then improves their non-financial performance.

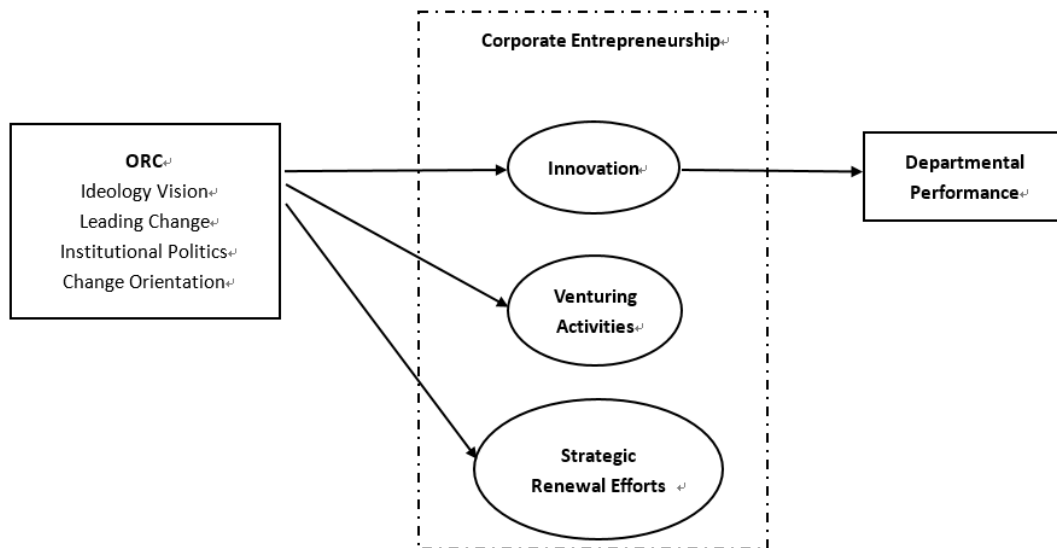
Moreover, we did not obtain significant results on venturing activities and strategic renewal as mediators that impact on the ORC-performance link (H4b, H4c). As we've mentioned before, the performance through venturing activities may not be achieved in the short-term. Therefore, we recommend that future research applies a longitudinal perspective to investigate whether Chinese SOE venturing activities mediate the relationship between ORC factors and performance. Another reason for this result is due to the approaches to venturing activities and the strategic renewal of Chinese SOEs. As we mentioned before, Chinese SOEs play a critical role in China's growth strategy. In the 1990s, the Chinese government established a strategy to explore the foreign market, which was called the "Going Out" strategy. The government used strong tactics to force Chinese SOEs to implement transformation through corporate venturing in order to expand to the foreign market (Jones & Zou, 2017). At the same time, the Chinese government established a series of strategic renewal activities to support the technology development of Chinese SOEs in order to improve their research and development (R&D) capabilities,

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conduct new technology research, and develop new products (Guo et al., 2017). On the one hand, the strong government support pushed the Chinese SOEs to accelerate their transformation of venturing activities and strategic renewal. On the other hand, however, the high level of regulatory pressure also restricted independent marketing and the innovation capacities of Chinese SOEs. When the government reduced its support and decentralised authority to the SOEs themselves, this weakness stood out. Therefore, future research on investigating whether venturing activities and strategic renewal activities impact on the relationship between receptivity factors and performance should consider the influence of political support by the government.

#### **5.3.6. Final Conceptual Model**

The final overall conceptual framework is shown below (Figure 6.2). This study found that the four-factor ORC framework is the best-fit model for this research. Corporate entrepreneurship is divided into three individual dimensions and significant ORC factors are related to these three dimensions. This study hypothesised that corporate entrepreneurship mediated the relationship between ORC factors and departmental performance. The results presented show that innovation plays a role in mediating the impact of ORC factors on performance within the Chinese SOE context. Furthermore, ORC factors have no direct effect on departmental performance, they only play a role in departmental performance when mediated by innovation.



**Figure 6.2: Final Conceptual Model**

## 6. Implications

This section discusses the implications of the research in three aspects. Firstly, this section gives implications related to theories. Secondly, it discusses implications and recommendations for future related research based on the research outcomes. Finally, this section shows how the organisations in this research, as representative of Chinese SOEs, have implications for the development of reform.

From the RBV point of view, the competitive advantages of organisations comes from their capabilities and resources (Barney, 1991). The type of resources include human

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capital and tangibles assets, while capabilities are defined as organisations' skills to apply and integrate their resources to acquire competitive advantages (Li & Xia, 2008). From the perspective of the institutional theory, the change strategies are motivated or restricted by the external environment (such as the Dual-Track System). This study discussed the institutional coerciveness that motivated the implementation of organisational change and corporate entrepreneurship activities and, conversely, also brought institutional pressure on the change process of Chinese SOEs. Furthermore, this study suggests that an integrated RBV and institutional theory helps explain the main characteristics of transitional economies, that is, scarcity of resources and uncertain external environments (Li & Xia, 2008; Meyer et al., 2004). Therefore, ORC acts as a bridge to combine the two perspectives to explore the organisational change of Chinese SOEs, both in their resources and capabilities within organisations, and institutional factors (Taha, 2014) that impact the pace and rate of change.

Moreover, based on the hypothesised outcomes of this study, this section provides recommendations for future research in various aspects. First, this research demonstrated that the ORC is a higher-order construct with four sub-dimensions that are interlinked. So the researcher recommended future research that can test the ORC construct with summed indexes. Then, this research supported the perspective from Bierwerth et al. (2015) which recommended avoiding summed indexes of the three sub-dimensions of corporate entrepreneurship. Because the motivations

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behind the corporate entrepreneurship activities are different, the separated indexes can avoid dilution of the results. Additionally, this research recommended future research on the relationship between ORC factors, corporate entrepreneurship, and performance, which can adjust the measurement of performance used based on the motivations behind the ORC factors and corporate entrepreneurship activities (Phan et al. 2009).

Furthermore, as this research mentioned earlier, due to the long period of the reform process in the Chinese SOEs context, this research encourages future research to consider a longitudinal perspective in order to investigate the mid to long-term impact of receptivity factors and corporate entrepreneurship activities on the performance of the Chinese SOEs. Finally, this research recommends future studies under the Chinese SOEs context could consider about related political factors (like political skills and political support), which can be examined to see whether these factors would affect the relationship between ORC factors and corporate entrepreneurship, corporate entrepreneurship and performance, and ORC factors and performance.

To sum up, the dramatic reform and restructuring provided great opportunities for research on Chinese SOEs. This research provided a perspective for investigating the Chinese SOEs reform in the aspects of the relationship between change receptivity, corporate entrepreneurship, and performance. The PetroChina Xinjiang companies, as the case context in this research, can be seen as representative of

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the Chinese SOEs' reform. They experienced four decades of China's economic reform and still have a critical role in the strategy of the whole of CNPC for motivating change. This research showed that the corporate entrepreneurship activities exist in the reforming departments and are paid attention by managers of Chinese SOEs. The structural transformation and change measures enhance the corporate entrepreneurship activities and then impact the performance. However, although the Chinese SOEs are willing to have autonomy and corporation for promoting performance, the national government still ensures a certain amount of control over the Chinese SOEs. Under government control, Chinese SOEs are seen as the "arms of the state" (Jones & Zou, 2017: 4) which are responsible for non-corporate duties (like social stability). Therefore, political interference and government pressure may influence the business strategies of Chinese SOEs and impact their final performance.

## **7. Conclusion**

In summary, this chapter discusses the Chinese SOEs context as the basis for the research and explains how corporate entrepreneurship is being established and diffused in the case context (PetroChina Xinjiang). Then the chapter explains each relationship of the conceptual model based on the hypotheses testing results. Finally, the chapter gives the implications and recommendations for related future research.

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The next chapter will present the contributions and limitations of this study and make an overall conclusion.

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## **CHAPTER 7: CONCLUSION**

### **1. Introduction**

This final chapter extends the discussion of the last chapter. This chapter first presents a summarised review of the research theme and provides the research contributions based on the outcomes and implications of the previous chapters, goes on to explain the limitations of this research and gives recommendations for future research. Finally, this chapter finishes with an overview of the whole thesis to highlight the research objectives and research questions, as well as offering a response to the research theme.

### **2. Review of Research Theme**

The context of this research focused on the transformation of SOEs in China's economic reform. Chinese SOEs, as major of China's economic, play a critical role in the economic reform and their reform has been viewed as the core element of the Chinese economic reform process. As SOEs were the core element during the Chinese central planning period, the transformation of the SOEs was the most prominent of the institutions involved in the transition to a market-based economy.



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Generally, the process of reforming China's SOEs was considered as taking place in four phases, starting in the late 1970s, which includes: 1) enterprise contract responsibility system (1978-1992); 2) ownership transformation (gaizhi) (1992-2003); 3) restructuring and merging of SOEs (2003-2013); 4) dual-track evaluation approach government-directed mergers (2013-present). Overall, the Chinese SOEs transformation is a process of marketisation based on the experimental and progressive approach (Song, 2018). Additionally, the transformation of Chinese SOEs during the reform process continually seeks a balance between government control and corporation autonomy.

China's oil industry, a government-controlled industry in the period of a planned economy, experienced a series of reform measures, as mentioned above, over the past four decades. Specifically, the main contents of PetroChina's reform are divided into two categories: the reform of the whole Company and the restructuring of the subsidiaries. For the company as a whole, the main measures of reform included separating PetroChina and Sinopec, to confirm their jurisdiction and independence, and enhancing their competitiveness through mergers and acquisitions of several other petroleum firms. For the restructuring of subsidiaries, each subsidiary was restructured according to their particular characteristics. This study selected the branch companies of PetroChina Xinjiang as the case context, as these are seen as the critical part of the future strategy of the whole PetroChina Corporation (PetroChina Annual Report, 2018). The restructuring of PetroChina Xinjiang started

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relatively late, which is developed gradually in the past ten years. The company established a series of formal policies to implement the restructure and technological reform. The on-going reform of organisations and departments provided a dynamic context for change to investigate the relationship between Organisational Receptivity for Change (ORC) and corporate entrepreneurship and its effect on performance.

On the basis of this context, this research first refined and determined the applicability of the ORC framework for the Chinese SOEs. The research then demonstrated which ORC factors significantly impact the three dimensions of corporate entrepreneurship (innovation, venturing activities, and strategic renewal efforts). Finally, the research built a theoretical framework which linked ORC theory, corporate entrepreneurship, and performance. The framework confirmed that innovation, as a mediator, made a significant impact on the relationship between ORC factors and performance. The next section provides details of the contributions of the thesis.

### **3. Thesis Contributions**

The contributions of this study divided into three parts: theoretically, methodologically, and empirically.

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### **3.1. Theoretical Contributions**

The first theoretical contribution of this research is built on the relationship between ORC theory and corporate entrepreneurship. The current ORC framework by Taha (2014) ignores the fact that ORC factors play a role and have an impact on corporate entrepreneurship. Prior to examining the relationship between ORC and corporate entrepreneurship, this research demonstrated that the three-dimension construction is the best-fitting model of corporate entrepreneurship. This research divided corporate entrepreneurship into three parts to test how ORC factors have an impact on the three dimensions, respectively. The results show how ORC factors significantly impact the three dimensions of corporate entrepreneurship (innovation, venturing activities, and strategic renewal efforts). Therefore, the study can conclude that when the departments within an organisation have a high receptivity context, they can promote corporate entrepreneurship (innovation, venturing and strategic renewal) in the change process.

The second theoretical contribution for further advancing research is exploring the exploring mediation effects on the link between ORC and performance. The association of ORC theory with a competitive advantage and organisational performance has been identified by previous empirical studies (Pettigrew et al., 1991; Butler, 2003; Newton et al., 2003; Taha, 2014), but few studies have examined how receptivity factors affect performance outcomes. This research determines that innovation, as a mediator, influences the ORC impact on performance.

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### **3.2. Methodological Contribution**

The methodological contribution of this research is that it has extended the quantitative method of the ORC theory. The previous quantitative work of Taha (2014) focused on ORC scale development and how to break the limitations of the qualitative research of previous studies. This research further explored ORC theory links to other already existing scales like corporate entrepreneurship. Also, this research demonstrated the ORC scale enables the researcher to conduct causal analysis, especially on the independent variable (ORC) and on dependent variables (performance).

Moreover, this research demonstrated that the ORC scale is valid in the lower levels (departmental level) within organisations. Pettigrew (1987) emphasised that it is necessary to conduct processual and contextual research by considering both micro and macro content within an organisation. Until now, organisational level research is the majority type in ORC studies (Pettigrew & Whipp, 1991; Pettigrew et al., 1992; Butler 2003; Butler & Allen 2008; Taha, 2014), which has confirmed the interaction by each factor at the macro level. This research has complemented the studies of ORC at the departmental level.

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### **3.3. Empirical Contribution**

This research empirically analysed the impact of ORC factors on corporate entrepreneurship in the reform of Chinese SOEs. PetroChina Xinjiang, as a critical part of the PetroChina Company Limited, plays a significant role in China's economic reform. The empirical study results demonstrated that the ORC factors significantly impact the three dimensions of corporate entrepreneurship: innovation, venturing activities, and strategic renewal efforts. Therefore, the study can conclude that when the departments within an organisation have a high receptivity context, they can promote corporate entrepreneurship (innovation, venturing and strategic renewal) in the change process. On the other hand, it provides a new perspective to investigate Chinese SOEs in future research that applies the ORC theory to explain how departments in the large-sized SOEs enhance their ability to adapt and change.

### **4. Limitations and Recommendations for Future Research**

This section first presented the limitations of the research and then discussed the way to stimulate future research in order to fill the gap mentioned.

The questionnaire-based quantitative method ignored other possibilities in the complex environment during the change process. The quantitative results indicate that ORC factors significantly impact corporate entrepreneurship, and the innovation

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dimension of corporate entrepreneurship is a mediator in the relationship. However, how the ORC factors affect corporate entrepreneurship, and how that innovation forms and develops to influence the relationship between ORC factors and performance, is not explored. Moreover, there is still the question of why the other two dimensions (venturing activities and strategic renewal efforts) do not have an effect on performance. These questions need future studies, especially qualitative studies, which might fruitfully examine in more detail how ORC factors and corporate entrepreneurship function.

Secondly, it should be noted that the process of the Chinese SOEs' reform is of a long-term duration. So far, the Chinese SOEs' reform has continued for four decades and has generally achieved phased progress every ten years. Due to timeframe issues, this research cannot follow the companies in the case studies for the whole reform process, but further research can apply longitudinal design to examine the ORC factors in the case of Chinese SOE reform.

Moreover, further research can explore what other variables, such as moderators or control variables, can have an impact on the relationship between ORC, corporate entrepreneurship and performance. For example, high-performance work systems (HPWS) has been demonstrated to promote organisational innovation (Al-Ajlouni, 2020), can HPWS play a role in the relationship between ORC, corporate entrepreneurship, and performance is valued to be explored in future research.

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Furthermore, this research, based on the current reform strategies in PetroChina Xinjiang, mainly focuses on middle managers. Following the progress of reform policies, further studies can also collect data from a different level of line managers and employees to understand the multidimensional conceptualisations of the effect of ORC on corporate entrepreneurship in Chinese SOEs, in order to consider the performance achieved from different levels within organisations.

Finally, China's unique features may limit the generalisability of the conclusions. Although Chinese SOEs were viewed as an example of exploring ORC in the emerging economic context, the generalisability of the findings into other contexts is uncertain. So, future studies need to test the effect of ORC factors on corporate entrepreneurship in other contexts, especially in other emerging economies.

## **5. Conclusion**

This section is a holistic overview of the previous six chapters and provides an executive summary of almost the entire research, what it has developed, and the result shown. The development and concept of the Organisational Receptivity for Change (ORC) theory is summarised here, and the background of Chinese state-owned enterprises (SOEs), researched as a case context, are described. It also summarises the conceptual model constructed and the process of research design.

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Finally, it concludes with the research findings and implications for future studies. Overall, this research based on the Chinese SOEs context applied a multi-source data quantitative approach, used Organisational Receptivity for Change (ORC) theory to study how receptivity factors motivate corporate entrepreneurship and to investigate the effects of corporate entrepreneurship on change performance.

Organisational Receptivity for Change (ORC) is an emerging notion, which was initially started by Pettigrew (1992) and further developed by Butler (2003) in their research of the UK public management institution. The perspective of Butler (2003), combined with Butler and Allen (2008), laid the foundation of the ORC framework, which includes five factors at two levels. The first level involves ideological vision, leading change, institutional politics, and implementation capacity. The second level involves possibility space, which refers to creativity and new behaviours that occur in the change process when several emerging management agendas are introduced at the same time. The development of ORC, as stated above, was based on qualitative studies. Taha (2014) started to develop the ORC scale measurement, based on Butler's ORC framework, in order to break the limitations of ORC qualitative research, and applied a quantitative method to give ORC more generalisability to a wider population. Taha's (2014) ORC scale includes 19 items with four dimensions: ideological vision, leading change, institutional politics, and change orientation. Change orientation is a merging of implementation capacity and possibility space.



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As ORC develops, further research aims to go in two directions. Firstly, based on the perspective of Butler and Allen (2008), the development of the ORC theory will focus on creativity behaviours in the organisational change process. Secondly, the ORC scale, as an emerging measurement, needs to be examined in other contexts to make sure it's valid and reliable.

This research, applied to the context of Chinese state-owned enterprises (SOEs), examines the ORC theory based on its two directions mentioned above. Chinese SOEs experienced four stages of reform during the last four decades: from the enterprise contract responsibility system (1978-1992) to ownership transformation (gaizhi) (1992-2003), and then the stage of restructured and merged SOEs (2003-2013). For the current stage since 2013, the reform of Chinese SOEs focuses on enhancing the creativity of enterprises. For large-sized companies, corporate entrepreneurship refers to new activities and new products and services generated within large companies. Additionally, a series of reform measures had significant effects on the performance of SOEs. Hence, the performance was usually viewed as significant for evaluating the effect of reform measures (Walker & Boyne, 2006).

Therefore, based on the related previous studies of ORC and research contexts, this research first proposed the assumption that the ORC factors may have an impact on corporate entrepreneurship. Based on this proposition, this research further explores corporate entrepreneurship playing a role as a mediator and the effects of ORC

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factors on performance, so as to promote the ORC-performance link.

This study chose the PetroChina Xinjiang branch companies as the case context and focused on the departmental level. It was chosen not only because of the variation in performance found across the departments in the PetroChina Xinjiang companies , but also because in the large-sized companies (like PetroChina), workers mostly communicate with each other within their departments rather than across units. Therefore, it is more valuable to explore change receptivity at the departmental level in the large-sized enterprise, because workers in the same department are likely to find it easier to share their organisation-related attitudes, norms and cultural values. The departmental situation in the Chinese SOE is more complex than the project team in general. Chinese SOE departments have a huge staff and complex culture, which is the same as organisations, but they still have the features of teams which have the specific duty to contribute to top company objectives. The research used multi-source data, completed by personnel and aggregated to departments. Finally, 109 departments in six companies participated in this research. A pilot study was investigated prior to the main study to ensure the quality of translated questionnaires and all items tested fitted with the case departments' conditions.

This thesis adopts a quantitative approach, based on the objectivist epistemology, to develop the conceptual model, which is based on existing theories. However, the study applied some of the case study design key principles when designing and

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implementing the quantitative method. Additionally, the research also referenced the philosophy of organisational change by Van de Ven and Poole (2005), which explains why this research applied an “organisational entity” (ontology) with a “variance methodology” (epistemology). This approach aimed to test the relationships in the variables and factors in the changing context within an organisation.

Prior to testing the assumptions, the researcher did a series of preliminary investigations and research. According to the ORC scale developed by Taha (2014), the researcher refined the measurement items and determined the four-dimension construct of the ORC theory. Moreover, the scale of corporate entrepreneurship developed by Zahra (1996) was also examined and determined that this research fits the three dimensions of corporate entrepreneurship.

The analysis outcomes demonstrated that ORC factors were able to affect three dimensions of corporate entrepreneurship: innovation, venturing activities and strategic renewal efforts. Additionally, the research found that the innovation aspect of corporate entrepreneurship can mediate the relationship between ORC factors and performance. This result also further demonstrated and supported the five-factor ORC framework by Butler and Allen (2008), which argued in the second level (fifth factor) of the ORC framework, possibility space, that the organisational creativity and innovation may be raised during the change receptivity process.

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To sum up, this study demonstrated the perspective of Butler and Allen (2008) that further development of the ORC theory will focus on creativity behaviours in the organisational change process. Another breakthrough of this research extended the application of the ORC theory to the Chinese SOEs background, which is a successful attempt at using and developing the ORC theory (Western theory) in an Eastern context. In turn, this research applied ORC measurement to the Chinese SOEs' reform to examine transformational management by a quantitative method. It also provided a new approach and direction to exploring the Chinese SOEs' reform.

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## APPENDIX A: Access Letter

Aston University  
Aston triangle  
Birmingham  
United Kingdom  
B4 7ET  
TEL: +44 (0)121 204 3000  
www.abs.aston.ac.uk



### **How can the link between corporate entrepreneurship and Organisational Receptivity for Change (ORC) affect departmental performance? - Evidence from a Chinese State-owned Enterprise**

Dear respondent,

I am undertaking a research for a PhD degree at Aston Business School, Aston University, Birmingham, UK. I would be grateful if you could spend a few minutes to participant this research. Please be assured that your response will be treated confidentially and with anonymity as the data obtained will be used for the purpose of this research only.

My research will investigate the quality of reform in Chinese state-owned enterprise (SOE). Particularly, I will test how Corporate Entrepreneurship (CE) impact on the firm performance during the process of reform. I will use Organisational Receptivity Change (ORC) to test the Chinese organisational change context. Also, devolution, political skills and employee support will related to this research as well.

I plan to conduct this research in two steps: 1) pilot study, which aims to validate the various factors in the Chinese context; 2) main data collection, which includes two phases, the second phase will operate six months later after the finish of the first phase complete to test the progress the reform.

If you have any question or concern about completing this survey, or more generally about my study, you may contact me or my research advisor through our contact details below.

Thanking you in advance for your time and input.

Kind regards,  
Miss Xueer Ma  
Max7@aston.ac.uk

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## APPENDIX B: Consent Statement

Aston University  
Aston triangle  
Birmingham  
United Kingdom  
B4 7ET  
TEL: +44 (0)121 204 3000  
www.abs.aston.ac.uk



**How can the link between corporate entrepreneurship and Organisational Receptivity for Change (ORC) affect departmental performance? - Evidence from a Chinese State-owned Enterprise**

Dear,

Thank you very much for agreeing to participate in this survey.

The information provided by you in this questionnaire will be used for research purposes. It will not be used in a manner which would allow identification of your individual responses.

The data will be treated confidentially and will be used for the purpose of this research only. Data generated by the study must be retained in accordance with the University's policy on Academic Integrity. The data generated in the course of the research must be kept securely in paper or electronic form for a period of ten years after the completion of a research project.

Yours,

Miss Xueer Ma (Doctoral researcher)  
Max7@aston.ac.uk

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## APPENDIX C: Information Sheet

Aston University  
Aston triangle  
Birmingham  
United Kingdom  
B4 7ET  
TEL: +44 (0)121 204 3000  
[www.abs.aston.ac.uk](http://www.abs.aston.ac.uk)



### **How can the link between corporate entrepreneurship and Organisational Receptivity for Change (ORC) affect departmental performance? - Evidence from a Chinese State-owned Enterprise**

Dear respondent,

I am undertaking a research for a PhD degree at Aston Business School, Aston University, Birmingham, UK. I would be grateful if you could spend a few minutes to participate in this research. Please be assured that your response will be treated confidentially and with anonymity as the data obtained will be used for the purpose of this research only.

My research will investigate the quality of reform in Chinese state-owned enterprise (SOE). Particularly, I will test how Corporate Entrepreneurship (CE) impacts on the firm performance during the process of reform. I will use Organisational Receptivity Change (ORC) to test the Chinese organisational change context. Also, devolution, political skills and employee support will be related to this research as well.

I plan to conduct this research in two steps: 1) pilot study, which aims to validate the various factors in the Chinese context; 2) main data collection, which includes two phases, the second phase will operate six months later after the first phase is complete to test the progress of the reform. I intend to collect data from top managers, middle managers and employees in different departments in the firm. I will choose electronic questionnaires by Wechat APP. The questionnaires will be sent to your Wechat company group. The questionnaire software ensures the privacy of the respondents. It is from the idea of environmental protection. Or if you do not want to use electronic questionnaires, I will print the questionnaires. It should take approximately 15 minutes to complete the main survey.

It is up to you to decide whether or not to take part. If you do decide to take part you

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will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving a reason.

In return of your valuable participant in the research I will provide you with a copy of executive report. This feedback will help you further understanding the organisational context and current reform process in your department. Also assess your future potential of career development.

All information collected about the individual will be kept strictly confidential. The data will be saved in the encrypted file and retained in accordance with the University's policy on Academic Integrity. Data generated in the course of the research must be kept securely in paper or electronic form for a period of ten years after the completion of a research project.

If you have any question or concern about completing this survey, or more generally about my study, you may contact me or my research advisor through our contact details below.

Thanking you in advance for your time and input.

Kind regards,  
Miss Xueer Ma (Doctoral researcher)  
Max7@aston.ac.uk

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## APPENDIX D: Volunteer Consent Form

**Research title:** How can the link between corporate entrepreneurship and Organisational Receptivity for Change (ORC) affect departmental performance? - Evidence from a Chinese State-owned Enterprise

1. I conform that I have been informed about the above study. I have has the opportunity to consider sufficient information, ask questions and have had these answered satisfactorily.

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected.

3. I agree to take part in the above study.

Name of volunteer \_\_\_\_\_

Date\_\_\_\_\_

Signature \_\_\_\_\_

Name of researcher: Xueer Ma

Date\_\_\_\_\_

Signature \_\_\_\_\_Xueer Ma

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## APPENDIX E: Participant Consent Form

**Full title of Project:** How can the link between corporate entrepreneurship and Organisational Receptivity for Change (ORC) affect departmental performance? - Evidence from a Chinese State-owned Enterprise

**Name, position and contact address of Researcher:**

**Name:** Xueer Ma

**Position:** PhD in Aston Business School Work and Organisation Department

**Contact address:** Londonderry House, Birmingham, UK

**Please initial box**

I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.

☐

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason.

☐

I agree to take part in the above study.

☐

**<Include the following statements, if appropriate, or delete from the consent form>:**

I agree that my data gathered in this study may be stored (after it has been anonymised) in a specialist data centre and may be used for future research.

☐

**Please tick box**

I agree to the interview / focus group / consultation being audio recorded

Yes

☐

No

☐

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I agree to the interview / focus group / consultation being video recorded

☐☐

I agree to the use of anonymised quotes in publications

☐☐

Xueer Ma

07/11/2017

Xueer Ma

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Name of Participant

Date

Signature

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## APPENDIX F: Questionnaire A for Middle/line Managers

Dear participant,

Thank you for participating in this research project, the purpose of this research is to investigate the quality of reform in Chinese state-owned enterprise (SOE). This questionnaire includes four sections. Please indicate the degree of agreement or disagreement (1 “strongly disagree” to 5 “strongly agree”) with the following statements. This questionnaire will take max. 20 minutes to complete. So please be honest and answer all the questions for accurate feedback.

Please return the filled questionnaire to Xueer Ma or email to [max7@aston.ac.uk](mailto:max7@aston.ac.uk)

Thank you very much.

Yours Sincerely,  
Xueer Ma  
Doctoral Researcher

Please provide some information about your organisation and the project you are/were working.

### Type of the department

Field exploration department ☐  
Official (central department) ☐  
Logistics department ☐

### Number of employees in your department

Less than 10 ☐  
10—20 ☐  
20—30 ☐  
30—40 ☐  
More than 40 ☐

### Your position

Middle Manager ☐  
Line Manager ☐



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## Organisational Receptivity for Change (ORC)

This section investigates mechanisms that could either facilitate or inhibit change within a department. The identification of these mechanisms would assist managers in addressing issues that slow down the implementation of a particular change program. Please answer all the questions in this section.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My department's vision <sup>1</sup> is clear to all employees.	1	2	3	4	5
The top management has always considered the department's vision when developing new strategies.	1	2	3	4	5
The change programme is in line with my department's vision.	1	2	3	4	5
My department's change policies are in line with the department's vision.	1	2	3	4	5
The change leader often would create a team to help manage the change programme.	1	2	3	4	5
The team usually comprises at least one senior manager	1	2	3	4	5
My department would give the change leader the power and authority to implement these changes.	1	2	3	4	5
The change leader's knowledge on change management enhances the change implementation success.	1	2	3	4	5
The top management would use their relationship <sup>2</sup> with these individuals/groups to implement change.	1	2	3	4	5
The top management would use their relationships with external contacts (government, media, or other influential people) to implement change.	1	2	3	4	5

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<sup>1</sup> Department vision can be understood "the future objective of corporate/department from the decisions made through collective".

<sup>2</sup> "Relationship" is different with "guanxi", it can be understood in this research like connection or relevance.

The top management would form alliances <sup>3</sup> with these individuals to gain support.	1	2	3	4	5
The department formalizes participation procedures with all these individuals/groups.	1	2	3	4	5
My department is always open about discussing issues relating to change.	1	2	3	4	5
My department would provide continuous support for employees involved in change.	1	2	3	4	5
The strategies to manage change are clearly defined	1	2	3	4	5
The department always divides change programmes into achievable targets.	1	2	3	4	5
My department's culture is very adaptive to change	1	2	3	4	5
My department promotes knowledge transfer between different departments.	1	2	3	4	5
My department's has the capacity to absorb new practices <sup>4</sup> .	1	2	3	4	5

## Corporate Entrepreneurship

Over the past three years, this department:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Has spent heavily on research and development (R&D)	1	2	3	4	5
Has maintained world-class research and development (R&D)	1	2	3	4	5
Has introduced a large number of new products to the market	1	2	3	4	5
Has acquired significantly more patents than its major competitors	1	2	3	4	5
Has pioneered the development of	1	2	3	4	5

<sup>3</sup> "Alliance" in this research can be understood like "organise people get together" without any entrenched political culture.

<sup>4</sup> "Practice" in this section is new behaviours and intention relevant to organisation

breakthrough innovations in its industry					
Has entered many new industries	1	2	3	4	5
Has expanded its international operations significantly	1	2	3	4	5
Has acquired many companies in very different industries	1	2	3	4	5
Has established or sponsored several new ventures	1	2	3	4	5
Has focused on improving the performance of its current business, rather than entering new industries	1	2	3	4	5
Has divested several unprofitable <sup>5</sup> business units	1	2	3	4	5
Has changed its competitive approach (strategy) for each business units	1	2	3	4	5
Has initiated several programs to improve the productivity of business units	1	2	3	4	5
Has reorganised operations to ensure increased coordination and communication among business units	1	2	3	4	5

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<sup>5</sup> "Unprofitable" can be understand as the tedious and/or disorderly units.

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## APPENDIX G Questionnaire for Top Managers

Dear participant,

Thank you for participating in this research project, the purpose of this research is to investigate the quality of reform in Chinese state-owned enterprise (SOE). This questionnaire includes three sections. Please indicate the degree of agreement or disagreement (1 “strongly disagree” to 5 “strongly agree”) with the following statements. Each questionnaire will take max. 10 minutes to complete. So please be honest and answer all the questions for accurate feedback.

Please return the filled questionnaire to Xueer Ma or email to [max7@aston.ac.uk](mailto:max7@aston.ac.uk)

Thank you very much.

Yours Sincerely,  
Xueer Ma  
Doctoral Researcher

Please provide some information about your organisation and the project you are/were working.

### Type of the department

Field exploration department ☐  
Official (central department) ☐  
Logistics department ☐

### Number of employees in your organisation

Less than 10 ☐  
10—20 ☐  
20—30 ☐  
30—40 ☐  
More than 40 ☐

---

## Performance

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
This manager's department is achieving its full potential	1	2	3	4	5
This manager's department overall is doing good job in terms of delivering results for the organisation	1	2	3	4	5
This manager has been given the opportunity and encouragement to do the best work I am capable of on this project	1	2	3	4	5